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DEPARTMENT OF HEALTH.

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TWENTY-EIGHTH REPORT

OF THE

COMMISSION OF PUBLIC HEALTH

AND

DIVISIONAL REPORTS

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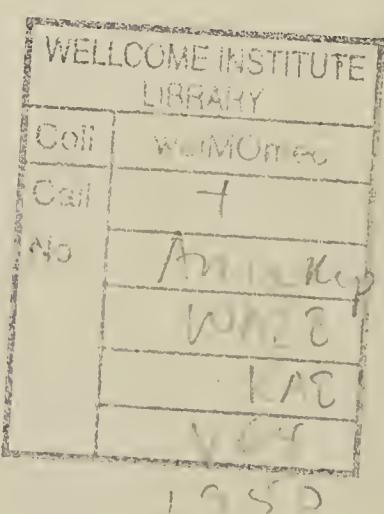
MINISTER OF HEALTH.



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## **COMMISSION OF PUBLIC HEALTH.**

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GEORGE EDWARD COLE, D.S.O., M.B., B.S., D.P.H., Chief Health Officer (Chairman).

WALTER ERNEST SUMMONS, O.B.E., M.D., D.P.H.

FRANK VICTOR GORDON SCHOLES, C.M.G., M.D., F.R.A.C.P., D.P.H.

Cr. EDWARD CHARLES RIGBY, C.B.E.—Representing Metropolitan Municipalities.

Cr. JOHN ANDREW MICHELSSEN, O.B.E., J.P.—Representing Cities, Towns and Boroughs other than Metropolitan Municipalities.

Cr. A. M. KING, O.B.E. (Ballarat City).

Cr. R. G. HOBAN, LL.B. (Kilmore Shire)—Representing Shires other than Metropolitan Municipalities.

W. B. MONTEATH, Esquire—Representing Cities, Towns and Boroughs other than Metropolitan Municipalities (appointed vice Cr. Michelsen on 26.4.50).

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## TWENTY-EIGHTH REPORT OF THE COMMISSION OF PUBLIC HEALTH, 1949-1950.

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To the Honorable W. O. Fulton, M.L.A., Minister of Health.

SIR,

We have the honour to submit, in accordance with the provisions of section 13 (3) of the *Health Act* 1928, our Report for the year ending 30th June, 1950.

Following the procedure initiated last year, the Divisional Reports of various branches and divisions under the control of the Chief Health Officer are appended to this Report.

A defect inherent in such a composite publication is that it, of necessity, refers to two different periods of time. Because vital and health statistics are, and always have been, prepared for calendar years, the medical officers must base their annual report and assessment of the Health of the community upon the figures collected throughout the calendar year by the Government Statist. On the other hand, the Commission of Public Health has, for equally strong reasons, to measure all administrative affairs and all progress by the financial year, and therefore has to report upon a period of 12 months, which begins 6 months later than the calendar year. Any apparent discrepancies in figures which may appear in this Report are to be ascribed to this cause. As nearly all subjects in Public Health have both medical and administrative facets, some repetition, despite efforts to avoid it, seems inescapable.

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The *sanitary* circumstances of the State have shown in recent years enormous improvement. Water supplies have been brought to a fair standard of efficiency; food, meat and milk are steadily coming under supervision; factories and dangerous trades are controlled; nuisances are abated; provision is being made for the removal of refuse and street cleansing in all but small hamlets; widespread action is being taken against the ordinary infectious diseases. District Health Officers who study the official local sanitary reports are impressed by the steady improvement which has taken place in the external sanitation of both town and country. A sanitary survey of one of the most closely populated cities in the metropolitan suburban area, which was undertaken by Health Department officers at the direction of the Commission, confirmed this observation. Gross overcrowding was discovered in some instances, but the sanitation of both domestic and trade premises was of a surprisingly high standard for such a congested area. The survey showed, however, that much remains to be done in this as in other areas for increasing the health services available to the individual, e.g., immunisation, health centres, kindergartens, creches, &c.

The *Infant Mortality* rate (death of infants under 1 year per 1,000 live births) established a new record of 21·89 per 1,000. This is the lowest figure ever recorded in this State and must be regarded as amongst the lowest in the world.

The *Tuberculosis Mortality* in 1949 of 271 per million is likewise the lowest recorded in this State.

Again, the incidence of *diphtheria* reported from the whole State was maintained at a satisfactorily low level.

Sustained efforts are being made to control all forms of *infectious diseases*. Despite the fact that these diseases have become a relatively small contributor to the death rate, they remain relatively large contributors to disablement and incapacity.

An epidemiological unit for the study of communicable bacterial and virus diseases has been established at Fairfield Infectious Diseases Hospital. This unit will investigate the communicable diseases in Victoria using as a primary source of material patients admitted to Fairfield Hospital. Considerable work on these lines has been done during the past two or three years, and sufficient progress has been made to warrant its stabilisation and extension. The National Health and Medical Research Council is making a considerable contribution towards the maintenance cost of the unit, and a special grant of £1,000 by the State has been approved enabling monkeys to be imported for virus transmission work. Clinical

and bacteriological investigations are being conducted by Dr. McLorinan and Dr. Ferris, particularly in relation to cross infection, penicillin therapy and the relative virulence and infectivity of different strains of *C. diphtheriae*. On this subject a substantial contribution to knowledge has already been made. The investigation of virus diseases is undertaken by Dr. Gray Anderson of the Walter and Eliza Hall Institute, who was in charge of the transmission experiments with rubella, using human volunteers, which was carried out at Fairfield Hospital. This work is of great importance because of its bearing on the prophylaxis of rubella. As liaison officer between the various agencies dealing with epidemiology in Victoria, i.e., the Department of Health, the Public Health Laboratory, Melbourne University, the Walter and Eliza Hall Institute, the Commonwealth Serum Laboratories, and the Fairfield Epidemiological Research Unit, Dr. Stevenson, a former medical officer of Fairfield Hospital, who has been studying epidemiology in U.S.A. under a grant from the Rockefeller Foundation, has been appointed to the Department of Health. Fairfield Hospital has appointed Professor F. M. Burnet, and Dr. E. V. Keogh as consultants to the Hospital and to the Research Unit. This organisation will permit an epidemic in any part of the State to be fully and promptly investigated.

#### INFECTIOUS DISEASES.

##### QUARANTINABLE DISEASES.

No cases of small pox, plague or cholera have been reported in Victoria in the period under review. The Consultative Council on Quarantinable Diseases, consisting of a representative of the Commonwealth Department of Health, Fairfield Hospital, and the British Medical Association, which was authorised by the Minister early in 1950, met frequently under the chairmanship of the Chief Health Officer. This Council has made recommendations to the Minister of Health and to the Commission of Public Health through its chairman. Plans to deal promptly with quarantinable diseases have been formulated, and a plan to enable parents to have their infants and young children vaccinated without cost will be put into operation shortly.

#### TUBERCULOSIS.

An agreement between this State and the Commonwealth to participate in a joint campaign against tuberculosis, was ratified by the *Health (Tuberculosis) Act 1949*. Under the arrangement, the Commonwealth will re-imburse to this State maintenance expenditure on tuberculosis in excess of that incurred in the financial year 1947-48 and total capital expenditure which is approved by the Commonwealth. The Act also provides for the appointment of a full-time Director of Tuberculosis. A separate Tuberculosis Branch in the Department of Health was established, under the *Ministry of Health Act 1943*, thus placing all activities relating to tuberculosis under the control of Dr. E. V. Keogh, who has been appointed Director of Tuberculosis. Mr. E. R. H. Ebbs is Secretary to the new branch.

The December rate from all forms of tuberculosis in Victoria in 1949 was the lowest yet recorded, 271 per million.

Of 1,071 beds provided in State Institutions, some 300 were unavailable pending the completion of staff accommodation. There was also an acute shortage of trained nursing staff—a situation which still continues.

There were some 40,000 attendances at the metropolitan and provincial bureaux, and some 10,000 domiciliary visits were made.

Extensions of the activities of the *Chest X-ray Survey Division* continue. Some 200,000 persons were X-rayed, with approximately equal distribution between the country and the metropolitan area. These surveys detected 128 persons with pulmonary lesions of proved activity who were brought under treatment. In addition, lesions of possible activity requiring further observation and investigation were found in 543 persons, whose doctors were advised accordingly.

Over 55,000 school children were Mantoux-tested. About 5 per cent. of these children between the ages of five and fourteen reacted to the test and these children were X-rayed and their parents notified of the results.

The Commission desires to place on record its appreciation of the services of Dr. Bell Ferguson, who was State Director of Tuberculosis from 1929 to 1950, and considers that the Tuberculosis Branch is fortunate in retaining the services of Dr. Ferguson in the branch in a consultant capacity.

#### DIPHTHERIA.

The number of cases reported from the whole State in 1949 was 401. Calculated on a population of 2,160,000 on 31st December, 1949, this figure gives an incidence of 18·6 per 100,000 of the population, which sets a new low level. The next lowest figure was that for the previous year, being 18·9. The incidence has dropped to the present level from 62·5 in 1944 (1,247 cases).

A substantial portion of this improvement must be attributed to diphtheria immunisation. Some 21,000 school children and 15,000 pre-school children were immunised in municipal campaigns during the year, making a total of 36,000, as compared with 44,000 of last year.

Diphtheria immunisation received a temporary check during the epidemic of poliomyelitis, when Dr. B. P. McCloskey, the Department's poliomyelitis officer, found that cases of poliomyelitis were occurring among children who had received injections. Following this discovery, all prophylactic inoculations were suspect, until a complete investigation revealed that no child who had received diphtheria prophylactic alone, developed poliomyelitis within three months of receiving the inoculation. The Consultative Council on Poliomyelitis advised that immunisation against diphtheria be continued. This advice was acted on and has been fully justified. The Commission of Public Health has, for the past twenty years, sponsored, and the Health Department officers have actively assisted in carrying out this valuable preventive measure. The diphtheria rate in Victoria has fallen from 3,000 per million in 1930 to 186 per million in 1949. The Commission considers that there is no ground for changing its policy in respect of immunisation against diphtheria and strongly urges all parents to have their children immunised.

There were seventeen deaths reported during 1949, giving a case mortality of 4·2 per cent. This figure indicates that, despite the dramatic reduction which antitoxin effected in diphtheria as a killing disease, this reduction has not been sustained to the vanishing point, and one case out of 25 is still fatal, as was the case 30 years ago. This fact further emphasises the necessity for protecting children in infancy by immunisation against this dangerous disease.

*Corrigendum.*—The following should be inserted in lieu of the first paragraph published under the heading "Diphtheria" in the Commission's Report for 1948-49:—

"A new low level of incidence was recorded for Victoria in 1948, the number of cases reported being 397. Calculated on a population of 2,100,000 at 31st December, 1948, this gives an incidence of 18·9 per 100,000 of population. The next lowest rate recorded was 19·3 in 1947."

#### TYPHOID AND PARATYPHOID FEVERS.

Fifteen cases of typhoid fever were reported. This represents a case rate of 0·7 per 100,000 of population. The cases occurred in twelve municipalities, including three cases at the Mental Hospital, Kew.

No case of paratyphoid fever was reported during the year.

#### DYSENTERY.

Forty-four cases of amoebic dysentery were reported, as compared with eight last year. All these cases contracted the disease outside this State.

Twelve cases of bacillary dysentery were notified, as against six in the previous year.

#### SCARLET FEVER.

A new low level of incidence was reported for Victoria in 1949. The number of cases notified was 1,260, corresponding to an incidence of 58·3 cases per 100,000 of population. The incidence for 1948 was 73·6 cases per 100,000 of population, or 1,546 cases.

#### CEREBROSPINAL MENINGITIS.

Sixty-seven cases were reported for 1949, as compared with 54 for 1948. The incidence for 1949 was 3·1 per 100,000 of population.

#### MALARIA.

Four cases were reported in 1949, as compared with 79 in 1948. Notifications have dropped steadily from 3,414, 1,608, 79, and 4 for the last four years, respectively.

#### ANCHYLOSTOMIASIS (HOOKWORM).

One hundred and five cases were reported, compared with 247 for 1948. Like malaria, the notifications are dropping steadily and are confined to ex-service personnel.

#### HYDATIDS.

Fifteen cases were reported in 1949, compared with eleven in 1948.

#### POLIOMYELITIS.

The epidemiological feature of the year under review was the epidemic of poliomyelitis, which had commenced shortly before the presentation of the Commission's last Report.

Victoria is seldom free from the disease, and the extent and severity of the 1937-38 epidemic gave Victoria unenviable pre-eminence in the history of this disease. The 1949 epidemic was fortunately only a third of the size of the 1937-38 epidemic. Seven hundred and sixty cases were reported during 1949, giving an incidence of 35.2 per 100,000, compared with 2.6 for 1948.

The peak of the epidemic was reached in September, corresponding in this respect to the 1945 and the 1937 epidemics. The Commission again draws attention to the seasonal incidence in Australia in contrast with that in overseas countries, where the disease is regarded as having its maximum incidence in the late summer and autumn; in Victorian epidemics the disease has occurred in winter and has reached its maximum incidence in spring. Dr. Scholes advised the Commission in September that the predictions, based on overseas seasonal incidence according to which the disease would become more serious over the summer months, were in his opinion unfounded. This has proved to be correct.

In addition to the cases reported through municipal councils, the Department learned of 35 additional cases, which were only discovered on account of the residual paralysis.

The number of deaths reported in 1949 was 48, giving a case mortality of 6.3.

Figures in regard to poliomyelitis are, to some extent, misleading when the data presented is confined to the cases which are notified to the Commission of Public Health. These notifications include:—

1. Poliomyelitis as a fatal disease. Nearly all these cases are notified, although an occasional case found by the Government Pathologist in post mortems for sudden death suggests that some rapidly-fatal cases of poliomyelitis are not always recognized as such;
2. Poliomyelitis as a paralytic disease. Most of these cases are notified, but, in the 1937-38 epidemic, many cases were only subsequently discovered, sometimes even years later;
3. Poliomyelitis as a non-paralytic disease. Here, in the absence of any simple laboratory test to confirm diagnosis, is a group in which lie most of the fallacies in the epidemiology of this disease. The incidence of the disease is known to be many times greater than the notifications indicate, but how many times greater is a matter of conjecture.

In the 1949 epidemic the males bore the brunt of the disease and were not only more frequently attacked, but also succumbed more readily.

Though the epidemic is over, there still remains the problem of after-care. In Melbourne, paralytic patients up to fourteen years are looked after by the Children's Hospital, which throughout the epidemic established and maintained eight treatment centres in the suburbs as well as staffed such institutions as Yooralla Hostel and School, Hampton Convalescent Hospital, and Frankston Orthopedic Hospital.

The arrangements for patients over fourteen are not so effective. The Department of Health has undertaken the responsibility for their domiciliary treatment and has supplemented the corps of physiotherapists by employing physiotherapists in private practice on a case or a sessional basis. Steps are being taken to increase the number of institutional beds by the Hospitals and Charities Commission and by the Red Cross.

The Commission desires to place on record the outstanding services to the State which have been rendered by the Consultative Council on Poliomyelitis. The Council, under the chairmanship of Mr. W. G. D. Upjohn, representing the British Medical Association, consists of Dame Jean Macnamara, Dr. H. McLorinan, Mr. C. H. Hembrow, Mrs. J. G. Norris, Mr. H. Buchanan, and Mr. J. B. Colquhoun.

### BACTERIOLOGICAL EXAMINATION OF SPECIMENS.

Grants made to the University of Melbourne for the above purposes have been as follows :—

	£		£
1944-45 .. ..	4,000	1947-48 .. ..	11,000
1945-46 .. ..	7,000	1948-49 .. ..	15,000
1946-47 .. ..	11,000	1949-50 .. ..	15,000

The number of specimens examined at the laboratory was—

52,000 in 1947 ; 59,000 in 1948 ; 61,000 in 1949.

The actual numbers do not completely reflect the increasing work which is being undertaken by the laboratory. With each refinement in technique not only does the accuracy improve, but the complexity of the examination increases and the same number of specimens requires more time and greater care.

Free examination of all bacteriological specimens submitted by hospitals and medical practitioners was introduced in 1947.

### COUNTRY SEWERAGE.

Only two preliminary plans for new sewerage systems were dealt with during the calendar year, but there has been considerably more activity in the first half of 1950, both in preliminary and final plans.

There has been no notable activity in the actual construction of systems previously approved. Of those started before 1942, Maffra has been proceeding slowly with house connections. Of the post-war schemes considerable progress in reticulation was made in Moe, but this has now been slowed down owing to the contractor having abandoned his contract, leaving the work to be carried on by day labour.

The system of quarterly inspections, which has had to be abandoned from time to time owing to staff shortages, recommenced on a partial basis in November, 1949, and is now in full operation. Results of treatment are not up to pre-war standards, owing to overloading of treatment plants by the rapid growth of towns, by the infiltration of ground and storm water, and by the shortage of labour and material having caused the postponement of the necessary remedial work.

### STREAM POLLUTION.

The absence of the recommended legislation to require the Commission's approval to the sites of proposed new factories in unsewered areas, and the method of treatment proposed for liquid wastes, has been partly overcome by the co-operation of the Committee for Decentralization and Development. This Committee sends representatives of the firms proposing to establish works to consult with the Commission's officers as to the suitability of the proposed premises and the method of treatment of the wastes.

No further systematic investigation of stream pollution has been possible during the year owing to shortage of staff.

No works have been carried out for the abatement of the pollution of the Yarrowee Creek by trade wastes, but the Commission has been informed that agreements have been reached in some cases on the conditions under which the Ballarat Sewerage Authority will accept trade wastes into the town sewerage system.

### PUBLIC BUILDINGS.

There has been an increase in the number of building plans examined, mainly in respect of benevolent institutions and public hospitals, but no increase in the number of plans of buildings catering for public entertainment is expected until the building situation improves.

An increase in the staff of building inspectors has enabled inspections to be extended from new and altered buildings to existing buildings. These inspections have revealed that there are many halls and churches in a bad state of repair, some having reached such a dangerous condition that the Commission had to order their closure as being structurally unsafe.

The additional staff has also enabled the night inspection of cinematograph halls to be extended to country districts. Such inspections have revealed wide-spread disregard of the regulations affecting public safety. An unprecedented number of prosecutions has resulted. Magistrates are now imposing penalties sufficient to be a real deterrent to offenders, and a marked improvement in conditions should soon be apparent.

It has been difficult for exhibitors in country districts to obtain licensed cinematograph operators, and the regulations are now being amended to provide for two grades of licences, the lower grade entitling a man to operate in a small country town, where pictures are shown not more than three times a week. The difference between the examinations for the two grades is that much of the theory is omitted from that for the lower grade.

### HOSPITALS.

The combined tuberculosis and infectious diseases unit of five stories at Ballarat is in the course of construction, and plans and specifications for a similar unit for Bendigo are nearly complete.

In view of the very high cost of new infectious diseases units, and the fact that they are likely to remain empty or nearly so for the greater part of the year, it has been decided that, in future, the provision for infectious diseases cases shall be in the form of wards and accessory compartments in the general hospital building, so situated and planned that they can be operated as self-contained infectious units when necessary, and used at other times for other classes of patients, who can be removed in the event of an epidemic. The Geelong Infectious Disease Hospital has not been used to full capacity at any time since its completion. Therefore, an arrangement has recently been made to use the first floor of the hospital for the accommodation of tuberculosis patients. One half of the ground floor has been retained for infectious diseases, and the remainder of this floor is to be used in conjunction with Kardinia House (the Private Hospital Section of the Geelong Base Hospital) for minor surgical cases. The tuberculosis and minor surgical patients would be evacuated in the event of a serious epidemic of infectious disease.

The number of plans examined for new public hospitals and additions has again increased by 25 per cent. over that for 1948-49, the increase from the first to the second half of 1949 having been over 100 per cent. Greater progress in the carrying out of the work is evident from the number of applications received for approval of completed buildings.

### DISTRIBUTION OF IODINE IN GOITRE AREAS.

Iodine tablets have been offered for distribution to nursing mothers, pre-school and school children in endemic goitre areas. Since the previous report, tablets have been distributed to the municipalities as shown hereunder:—

Alberton .. .. .. .. .. ..	37,000
Bairnsdale .. .. .. .. .. ..	19,000
Bright .. .. .. .. .. ..	25,000
Dandenong .. .. .. .. .. ..	69,000
Mirboo .. .. .. .. .. ..	15,000
Narracan .. .. .. .. .. ..	39,000
Orbost .. .. .. .. .. ..	25,500
Tambo .. .. .. .. .. ..	6,000
Warragul .. .. .. .. .. ..	47,500
Town of Sale .. .. .. .. .. ..	20,000
 Total .. .. .. .. .. ..	 303,000

### MEAT INSPECTORS EXAMINATION.

The Commission, in 1948, appointed a committee of examiners to make recommendations for the re-organization of the curriculum of the meat inspectors course. In addition to presenting a revised syllabus, the committee recommended that steps should be taken to bring the course under the control of a statutory educational authority and suggested that the William Angliss Food Trades School would be a suitable institution for this purpose. The Commission adopted these recommendations, and the Education Department agreed to conduct this course. The lecturers who had previously carried out the course of instruction privately, are now employed by the Education Department, and the Minister of Health approved of the Health Department making up the difference between the cost of lecturers' fees and the amount received from students' fees. The course of instruction will not be completed until September, 1950.

### INSPECTION OF LIQUOR.

During the year, some 2,000 licensed premises were inspected, and more than 20,000 bottles of spirits examined. The standard as to truth to label was high and necessitated few samples being taken for laboratory examination.

Improved transport facilities have been made available to the Liquor Inspection Branch, and this will greatly increase the mobility and efficiency of the inspectors.

### LEGISLATION AND PROCLAMATIONS, 1949-50.

#### ACTS.

*Mothercraft Nurses Act* 1949, No. 5413, provides for the establishment of a register of mothercraft nurses, and for the making of Regulations prescribing standards of training and examinations for persons desiring to be registered.

*Masseurs (Registration) Act* 1949, No. 5430, makes temporary provision for the registration of persons trained elsewhere than in Victoria, provided that the Board is satisfied that their training was substantially equivalent to the Victorian training standard. Applicants may be required to pass an examination.

*The Health (Tuberculosis Arrangement) Act* 1949, No. 5432, ratifies the arrangement between the Commonwealth and the State pursuant to the *Commonwealth Tuberculosis Act* 1948, and provides for the appointment of a full-time State Director of Tuberculosis.

*The Health (Cattle) Act* 1949, No. 5437, permits the removal of cattle, other than pigs, grazing on sewage-irrigated land, provided that the animals are for immediate slaughter at a metropolitan abattoir. If inspection discloses viable *cysticercus bovis*, the carcass is to be condemned.

*The Milk Pasteurization Act* 1949, No. 5444, provides for compulsory pasteurization and bottling of milk for sale in prescribed districts, and for the licensing of pasteurizing premises. (This Act is administered by the Department of Agriculture.)

#### REGULATIONS.

Food Standards amendments alter the requirements for fish pastes, pastry mixes, jelly crystals, and dessert mixtures; permit phosphoric acid in "summer or temperance drinks"; provide new labelling requirements for medicines, particularly in regard to the description of drugs by standard names; prescribe a standard for imitation cream; and vary the prohibitions regarding adulteration of food with poisonous substances.

The Fire Prevention Regulations were revised.

The Building Regulations were amended to give the Commission power to grant exemptions from compliance with specified requirements in certain cases.

The Offensive Trades Regulations were amended to defer the requirement for provision of laundry facilities at abattoirs until the 1st of October, 1950.

The Meat Supervision Regulations (requiring approved apparatus for kosher killing) were deferred from operation until the 1st of October, 1950.

The Harmful Gases Regulations were amended by including a number of additional substances and their maximum permissible concentrations.

The Eating-house Regulations were revised.

The General Sanitary Regulations were revised.

The fees payable to certifying medical practitioners under the Factories and Shops Act were revised.

#### PROCLAMATIONS.

The Tuberculosis Branch was established, taking over from the General Health Branch most of the functions of the latter in regard to tuberculosis.

Erythema nodosum and exudative pleurisy were declared to be notifiable infectious diseases.

The health areas were re-defined to conform as closely as possible to the State Regional Planning Areas.

The Rodney Shire meat area was extended, and the operation of the Kyneton and Corangamite meat areas was deferred owing to lack of suitable abattoirs in the districts.

## AMENDMENT OF THE HEALTH ACT 1928.

The Commission again reiterates the recommendations made in earlier reports and set out in full in the Commission's 27th Annual Report of last year.

## RESIGNATION.

The resignation of Cr. *John Andrew Michelsen*, O.B.E., J.P., who represented cities, towns, and boroughs other than metropolitan municipalities for some thirteen years, was accepted with regret by the Commission at its meeting on 24th March, 1950. Many years of service as a member of the Bendigo City Council gave Cr. Michelsen a thorough knowledge of local government. His varied experience was most valuable to the Commission, particularly in dealing with problems affecting provincial cities.

## RETIREMENT.

*Dr. R. E. Harris* retired from the position of Senior Health Officer of this Department on 3rd April, 1950, after 27 years service with the Department. On the 14th of March, 1950, the last meeting which Dr. Harris attended, the Commission expressed its appreciation of Dr. Harris' long and valuable service to the Department.

Respectfully submitted—

GEORGE COLE

WALTER SUMMONS

F. V. SCHOLE

E. C. RIBGY

A. M. KING

R. G. HOBAN

W. B. MONTEATH

} Members of the  
Commission

J. WHITLOCK, Secretary.

Melbourne, 27th September, 1950.

## DIVISIONAL REPORTS.

### REPORT OF DIRECTOR OF TUBERCULOSIS, VICTORIA.

YEAR ENDED 31st DECEMBER, 1949.

Two events of major importance in control of tuberculosis in Victoria occurred in 1949-50. The first was the establishment, under the *Ministry of Health Act* 1943, of a separate Tuberculosis Branch of the Health Department, thus placing the various activities in relation to tuberculosis, which were formerly the responsibility of the General Health Branch, under the administrative control of the Director of Tuberculosis.

*The Health (Tuberculosis Arrangement) Act* 1949 was passed on 6th December, 1949. The purpose of this Act was to ratify and approve an arrangement with the Commonwealth with respect to tuberculosis, and to provide for the appointment of a full-time Director of Tuberculosis. The Commonwealth and this State have agreed to participate in a joint campaign to reduce, as far as possible, the incidence of tuberculosis and to provide adequate facilities for diagnosis, treatment, and control. Under the terms of the arrangement, the Commonwealth will reimburse capital expenditure in respect of tuberculosis on buildings, plant, and equipment after 1st July, 1948, and the subsequent annual net maintenance expenditure in excess of the expenditure incurred during the financial year 1947-48.

The unified control of activities against tuberculosis made possible by the creation of the Tuberculosis Branch, and the initiation of a joint Commonwealth-State campaign, backed by the financial resources of the Commonwealth, should give a powerful impetus to activities in diagnosis, treatment, and control of tuberculosis in this State. Victoria is fortunate that such a sound foundation has been laid by Dr. J. Bell Ferguson in the creation of a first rate tuberculosis service. An illustration of his foresight is the position in respect of sanatoria and hospital accommodation. Completion of works in progress, which he originated, and erection of the Watsonia Chest Hospital, will provide some 1,600 beds, which, with the addition of 400 odd beds provided by the Repatriation Department will give nearly four beds per annual death.

Existing shortage of labour, and difficulties in finding suitable office space for new staff, are impediments to rapid expansion of the activities of the Branch. The strain on office accommodation will be eased when the Chest X-ray Survey Division takes up its new quarters in Milton House, a city property purchased by the Commonwealth for use of the Tuberculosis Branch.

*Tuberculosis Mortality.*—There were 541 deaths from pulmonary tuberculosis in 1949 (381 males, 160 females), and 46 deaths from non-pulmonary forms of the disease. The death rate per million was 271, the lowest yet recorded in this State. Details of annual deaths and mortality are shown in Table 1 of the Statistical Appendix of this Report.

*Chest Clinics and Tuberculosis Bureaux.*—There were 38,940 attendances at the Central and Prahran Bureaux, and 4,784 at the provincial Bureaux—Bendigo, Ballarat, and Geelong. Nurses attached to the metropolitan Bureaux paid 9,867 visits and those attached to the provincial centres, 1,822 visits. Medical officers attached to the Central Bureau paid approximately 1,000 visits to patients in their homes.

Domiciliary care of patients is developing. Arrangements now exist for administration of streptomycin and P.A.S. to suitable patients under Bureau supervision, by local medical practitioners. The Department defrays the cost of the treatment, including the doctor's fees.

During the year 3,720 new contacts were examined by the Bureaux staff and 6,356 re-examinations of contacts were made. One hundred and twenty-one cases of pulmonary tuberculosis were detected in contacts.

*Sanatoria and Chalets.*—During the year 971 patients were admitted to sanatoria and chalets, and 794 were discharged. There were 94 deaths. Of 1,071 beds provided for reception of patients suffering from pulmonary tuberculosis, approximately 300 were unavailable, pending completion of accommodation for the necessary staff. There has been, in addition, an acute shortage of trained nursing staff, but the situation now appears to be easing slightly, and it is hoped that when staff quarters are completed, early in the new year, these 300 beds will become available.

*Thoracic Surgery.*—All major thoracic surgery is done at the Austin hospital. For the greater part of the year, two surgical teams were working under Mr. C. J. Officer Brown and Mr. J. Hayward. A third team under Mr. I. McConchie commenced in February, 1950. Facilities for bronchoscopy and minor thoracic surgery have been available at Mint-place Annexe since 1950. The efforts of the surgeons to reduce the waiting list for thoracic surgery have been successful and there is now little or no delay in dealing with metropolitan or country patients requiring thoracic surgery.

*B.C.G.*—The use of B.C.G. vaccine in Victoria has so far been confined to persons exposed to special risk; contacts and known cases, nurses, medical students, &c. Immunization of child contacts is undertaken at the Bureaux where some 1,000 children were immunized during the year. The vaccine used is prepared at the Commonwealth Serum Laboratories, and has proved eminently satisfactory, giving a high percentage of conversions, with complete absence of severe reactions. Dr. E. A. North, who is responsible for production of B.C.G. for Australia, works in close collaboration with Dr. Church, medical officer in charge of immunization at the Central Bureau. This arrangement permits a check of the efficiency of each weekly batch of vaccine issued by the Commonwealth Serum Laboratories.

*Chest X-ray Surveys.*—This Division, under the direction of Dr. Lyall Andrews, has rapidly expanded. Accommodation at present is cramped, and transfer to the new quarters at Milton House will be most advantageous. The surveys conducted included 21 in country centres in all parts of the State; 6 in metropolitan municipalities; 9 industrial surveys, and 12 in Government establishments.

Miniature films were taken of 184,216 persons about equally distributed in metropolitan and country areas. 21,631 large chest films were taken on these subjects. These surveys discovered 128 cases of proved active pulmonary tuberculosis, 543 persons with lesions of possible activity who require continued observation and investigation, and 2,711 showing radiological evidence of healed or quiescent lesions.

Dr. Andrews' report calls attention to interesting data which confirm the value of the surveys. Two out of three persons suffering from active pulmonary tuberculosis had experienced no symptoms of sufficient severity to cause them to seek medical advice. A history of contact with a known case could be obtained in only one-third of the proved active infections picked up in the surveys. The need for repeated examinations of the chest at regular intervals is indicated by the fact that nearly 20 per cent.

of patients with radiological evidence of an active pulmonary lesion had had a previous Chest X-ray within four years of the first examination in a Mass X-ray Survey.

*Departmental Tuberculosis Committee.*—This Committee was appointed by the Minister of Health, the Honorable C. P. Gartside, M.L.C., in March, 1949, with the object of providing a Departmental Tuberculosis Executive with a consultant panel to keep the Government informed of all aspects in relation to prevention, diagnosis, and treatment of tuberculosis. Departmental members of the Committee consist of the Permanent Head (Mr. W. L. Rowe), who acts as Chairman, the Chief Health Officer, Director of Tuberculosis, Clinical Tuberculosis Officer, Director Mass X-ray Surveys, Medical Superintendent Gresswell Sanatorium, and the Accountant. The leader of the Consultant Panel is Dr. Clive Fitts.

Reports of Divisional officers and statistical data are attached.

ESMOND V. KEOGH,  
Director of Tuberculosis.

#### CLINICAL AND BUREAUX SERVICES.

##### CENTRAL CHEST CLINIC AND TUBERCULOSIS BUREAU, MELBOURNE.

*Deputy Director of Tuberculosis; Diagnostic Services:*  
*Dr. H. M. James.*

It was decided to alter slightly the designation of this section of the Tuberculosis Branch, emphasizing rather the clinical than the tuberculosis aspect. Patients are much less apprehensive attending a "Chest Clinic" than a "Tuberculosis Bureau".

The Chest Clinic receives patients mainly in three ways, viz:—

- (a) They are referred by outside medical practitioners for diagnosis and recommendation as to further investigation and treatment.
- (b) Definite cases of pulmonary tuberculosis are referred for treatment either institutional or domiciliary.
- (c) All contacts of known tuberculosis cases are kept under observation.

The Chest Clinic acts as a central registry of all cases of pulmonary tuberculosis, and arranges for sanatorium treatment where necessary. It also acts as a centre for the dissemination of information on tuberculosis generally and through its visiting nurses for instruction in preventive methods and hygiene in homes where tuberculosis exists. It is also a teaching centre for medical students and for graduate nurses studying for the certificate in tuberculosis nursing.

There has been a steady increase year by year in the number of patients attending the Chest Clinic. This year there were 31,656 attendances, 9,126 for the first time.

The main new developments during the year have been the institution of B.C.G. Clinic; the beginning of a service for home medical treatment and supervision; and fuller employment of culture of sputum and fasting gastric contents.

The B.C.G. Clinic operates two full days weekly under the control of Dr. D. Church. This Clinic is so far confined to those exposed to risk of infection, i.e., family, house and work contacts, social workers, occupational therapy students, nurses, and medical students. It is proposed to extend this service considerably in the near future. We have had the very welcome collaboration of Dr. Edgar North of the Commonwealth Serum Laboratories. The vaccine produced by him has been uniformly satisfactory. A very high percentage of conversions has taken place, and no serious complications of any kind have occurred. Nine hundred and twenty-seven persons were immunized from July, 1949, to June, 1950.

Visits to homes of patients are made by the medical staff on two mornings weekly, in company with the visiting nurse, and amount at present to approximately 1,000 visits yearly. In addition, a recent decision by the Honorable the Minister of Health has allowed arrangements to be made with local medical practitioners whereby suitable cases may be given streptomycin and P.A.S. in their own homes, the Department of Health bearing the cost of the materials and doctors' fees.

Fasting gastric cultures are taken one morning weekly. Figures are not yet complete, but approximately 750 cultures will be made this year.

The X-ray Department has taken 17,198 large films and 7,830 micro films during the year, a total of 25,028. In addition to the routine work of the Central Chest Clinic, all radiography for Mint-place Annexe and for bone and joint conditions from Greenvale and Heatherton Sanatoria are done at this Chest Clinic.

##### CHEST CLINIC AND TUBERCULOSIS BUREAU, BENDIGO, BASE HOSPITAL, BENDIGO.

*Tuberculosis Officer: Dr. K. G. Kerr.*

During 1949 there were 75 notifications of tuberculosis in the Northern Health Area, 42 from the City of Bendigo and 33 from the rest of the Area. Thirty-three of the notifications were from the Bendigo Chest Clinic and the remaining 42 from private practitioners throughout the Health Area. There has been a marked increase in the number of notifications, mainly because of a Mass X-ray Survey in Bendigo in 1948 when over 11,000 people were X-rayed, and consequent notifications from the Chest Clinic. Forty-nine of the 75 notifications were of persons over 40 years of age. There were 47 males and 28 females. Of 33 cases, whose stage of disease at notification is known, only four could be said to be in the first stage.

There were 24 deaths from pulmonary tuberculosis and one death from tuberculous meningitis in a female child of twelve years. Fifteen of the deaths were of residents of the City of Bendigo, thus giving a death rate of 5.6 per 10,000 of population. In the five-year period 1941-45, Bendigo had a death rate from pulmonary tuberculosis of 5.9 per 10,000 of population, as compared with rates of 4.1 for Melbourne, 4 for Ballarat, and 3.5 for Geelong.

Nine of the 24 deaths were of persons who were not known to the Chest Clinic as cases of pulmonary tuberculosis before death.

*There was only one death from pulmonary tuberculosis among persons under 40 years of age, a male of 34 years.* The general impression over recent years from study of notifications, deaths, and the results of the Mass Survey, together with the findings after tuberculin-testing of 7,682 persons of all ages in 1948, is that infection in young people is diminishing markedly, and they are thus being deprived of the apparent protection afforded those who survive the effects of primary infection. It appears that mass vaccination with B.C.G. of adolescents and young people is indicated.

The appointment by the Department of a full-time nurse and a clerk to the Bendigo Chest Clinic has resulted in better functioning of the clinic, and this is reflected in greatly increased attendances and home visits. A new departure has been the use of B.C.G. vaccination for contacts and from its inception to the end of 1949, 104 nursing trainees and hospital staff, and 68 contacts had been vaccinated, with a conversion rate of 87 per cent. Imported vaccine was given to 76 persons and gave a conversion rate of 84 per cent. Commonwealth vaccine was given to 96 persons and the conversion rate was 90 per cent. Reactions to vaccination have been mild and in no instance has any trouble been experienced.

Attendances at the Clinic were also increased this year by investigation of many people who had been found to have abnormalities during the Mass X-ray Survey in 1948. Nineteen active cases were found in the Survey, five of which were a direct result of the skin-testing of children and subsequent home-visiting.

The visiting nurse for the Health Area beyond the City of Bendigo has visited many homes, arranged for X-ray examination of contacts, performed skin-tests, and arranged sputum examinations. In addition, she assisted in several Mantoux-testing campaigns associated with X-ray surveys and followed up results with family inquiries. During the year, X-ray surveys were made at Echuca, Kerang, and Swan Hill. Over 7,000 children were skin-tested and only 2 per cent. were found to react.

The liaison of this nurse with the Chest Clinic has been of great assistance in providing information of tuberculosis patients and their families in the country, a field which has never been covered adequately before.

Attendances for the year at the Clinic were as follows:—

	M.	F.	Under 14.		Total.
			M.	F.	
Number of new cases applying ..	214	222	56	69	561
Re-attendances ..	615	808	269	435	2,127
Re-examinations ..	355	406	139	214	1,114
Cases passed for Chalet ..	15	13	..	1	29
Cases referred to Austin ..	2	6	..	..	8
Contacts—					
Number of infecting cases ..	73	52	2	4	131
Number of contacts examined ..	55	73	35	66	229
Number of contacts re-examined ..	80	146	107	144	477
Home visits—					
Nurses' first visits ..	32	15	..	..	47
Nurses' re-visits ..	339	196	3	14	552
Pneumothorax refills ..	100	82	..	..	182
X-ray examinations ..	423	442	109	157	1,131
Sputum examinations ..	236	90	2	3	331
Screenings ..	..	..	..	..	219
Evening sessions ..	49	55	4	2	110
B.C.G. attendances from 1st Nov. (previous attendances not separately recorded) ..	9	26	14	38	87
Total attendances old and new cases ..	829	1,030	325	504	2,688

Omitting patients whose disease has been arrested for five years or more, the following table illustrates the present Clinic register:—

Number of cases of tuberculosis attending Clinic	138
Number in Bendigo Chalet or in Sanatorium ..	27
Number in Bendigo and immediate environs under own doctor or Repatriation Department ..	63
Number in the rest of the Northern Health Area not attending Clinic ..	.. 84
Number of non-pulmonary cases ..	30
Number of known cases of tuberculosis (Northern Health Area) on register ..	342
Number of patients who have been registered but now reside outside the Northern Health Area	282

**Silicosis.**—During the year, there were eight deaths from silicosis among men who had worked in the gold-mines, while one of the deaths from pulmonary tuberculosis was of a man with silicosis also. It has always been important in this area to examine the certification of these deaths from silicosis because they are certified variously as "pulmonary fibrosis," "miners' phthisis," "miners' complaint," or "silicosis," and, in the past, have sometimes included cases known during lifetime to have been proved tuberculous and which, if they had been certified as deaths from pulmonary tuberculosis, would have raised the already high local death rate from that cause.

Fifteen cases of silicosis were notified from the Clinic as cases of industrial disease, together with two cases of silicosis complicated by tuberculosis, in one of which tubercle bacilli were found in the sputum.

Thirteen examinations of applicants for a Miners' Phthisis Allowance were made. Five had silicosis, 5 had silicosis complicated by tuberculosis, in 1 of which tubercle bacilli were found in the sputum, 2 had tuberculosis only, and, in 1 instance, there was no evidence of silicosis.

There are 138 registered cases of silicosis at the Clinic, including 27 complicated by tuberculosis, in 11 of which tubercle bacilli have been found in the sputum.

There is no provision under existing legislation for initial and periodical X-ray examination of miners or workers in dust-producing industries. Men with silicosis generally are not discovered by the Clinic until totally disabled and when they are applying for the Miners' Phthisis Allowance.

In some instances, infectious tuberculosis is present and may have been present unknown to the patient for some years, to the constant danger of wife and children, workmates, and the community. There is no provision for the exclusion of miners with tuberculosis from underground workings.

The number of working miners in Bendigo has diminished considerably in recent years, and their supervision by X-ray examination could be managed with existing facilities. The problem of silicosis has always been a factor in the high local incidence of tuberculosis.

*Visits to Country Chalets and Hospitals.*—Visits were made to Horsham, Mildura, Mooroopna, Wangaratta, Ballarat, Warrnambool, and Warragul.

#### TUBERCULOSIS BUREAU, BALLARAT.

*Tuberculosis Officer—Dr. G. T. James.*

The total attendances were slightly above the 1948 figure—this year numbering 887. The increase was mainly in the new cases applying, and this was undoubtedly due to the radiological survey conducted during the year. Regarding the supervision of contacts, there is one aspect on which comment has been made previously, but which still requires clarification. Service cases under the Repatriation Department are not notified to the State authorities, and contacts of these cases are, in nearly every instance, found by chance and advised to undergo periodical review at the Bureau.

There have been ten patients attending for artificial pneumothorax refills, and 108 refills have been given. Patients attending the Clinic are drawn from a wide area of this part of the State, and, judging by distances they travel, the opportunities for review offered by the Department are appreciated.

#### CHEST CLINIC, GEELONG.

*Tuberculosis Officer: Dr. D. N. L. Seward.*

During 1949, there were 150 patients under the supervision of this Clinic, either attending regularly for re-examinations or being visited by the Clinic sister.

Artificial pneumothorax was a part of the treatment in six cases.

In addition to the treatment of these patients, the main work consisted of the examination of contacts and also the investigation of suspect cases referred to the Clinic by medical practitioners for diagnosis.

During previous years, the investigation of contacts has been the most useful means of detecting cases of pulmonary tuberculosis. Comparison of the statistics contained in the quarterly returns for the years 1948 and 1949 show a great increase in 1949 in the number found to be suffering from pulmonary tuberculosis.

The number "Passed for Sanatoria," or "Admitted to the Geelong Hospital" in 1949 was approximately double that of the previous year. This increase occurred particularly in the period April to June and resulted from the Mantoux testing of school children in the district during March, 1949, and the Mass X-ray Survey in Geelong in May, 1949. An annual repetition of these procedures is fully justified.

## INSTITUTIONS.

### INSTITUTION ACTIVITIES.

#### GRESSWELL SANATORIUM.

The year has been one of great activity as reflected by the statistics herewith supplied. The number of admissions during this time was 160, whilst the discharges numbered 146. In addition, the total of patients deaths was eight. The average daily number of patients was 158·7, whilst the average duration of stay was 396·25 days per patient.

The difficulty in placing sick patients who really need hospital treatment was reflected last year in the increased proportion of sick patients admitted to the Sanatorium. This inevitably reduces the available purely hospital bed space for patients in the Sanatorium, and, therefore, is a limiting factor in turnover and number of admissions possible. At the same time, essential nursing attention is concentrated on sick patients, and, whilst present difficulties in staffing Sanatoria continue, adequate care for sick patients is difficult. The projected opening of the new accommodation for nurses and male members of the staff in the near future will make available a ward of 24 beds now in use for staff.

*Treatment.*—Recent developments in chemotherapy have extended the scope of treatment of tuberculous patients, at the same time increasing the work of the medical and nursing staff, and further emphasize the need for more adequate laboratory facilities. Streptomycin has been used freely where indicated, and P.A.S. was being used in an expanding field.

More extensive use of surgery and the further development of the field of chemotherapy combine to emphasize again the need for a higher proportion of purely hospital beds in the modern Sanatoria than has hitherto been considered necessary.

Artificial pneumothorax and artificial pneumoperitoneum have been used where required. Thirty-one patients were treated with artificial pneumothorax and nine with artificial pneumoperitoneum, whilst continuance of treatment was given to other patients from previous years. Major chest surgery was done at the Austin Hospital.

The activities of the Social Club, which largely controls Occupational Therapy, have been extended by the use of Art Therapy. This has been considerably assisted from without, largely through members of the Victorian Artists' Society, arranged through the courtesy of Mr. F. L. Coles.

The army hut which was re-erected and which is to be converted for use as an Occupational Therapy unit, has not yet been made available for this purpose, and limited space for handicrafts and Occupational Therapy in general is greatly felt. A later development projected is the installation of a pottery unit when the necessary buildings are available.

The services of Miss Wilkinson, the Handicraft Instructress from the Red Cross Society, have been of great help to the patients.

The development of the grounds is slowly proceeding, and new garden plots have been made and others are projected. The value to the patients of a fully developed garden in the Sanatorium, particularly to those confined to bed, cannot be over-emphasized.

During the year, a satisfactory standard of service in all sections of the Sanatorium has been maintained, despite recurring difficulties with staffing.

#### GREENVALE SANATORIUM.

During the year, a total of 106 patients was admitted, 90 patients were discharged, and there were 15 deaths.

The average duration of stay of the patients was thirteen months. Patients have been reviewed for surgery at regular intervals, and surgical cases, both short term and long term, have been transferred to Austin Hospital as beds became available.

Twenty-six cases of pneumothorax were induced. Two cases underwent pneumonectomy. One very interesting case had been an invalid for many years, and had no prospect of ever being well. During all this time, the "good" lung had remained very good, and eventually pneumonectomy was undertaken. This patient has now been discharged to her home and is able to do her own housekeeping.

Combined treatment of streptomycin and P.A.S. was commenced with most encouraging results.

A very successful display of Patients' Handicrafts was held in September. The display was officially opened by the Chief Health Officer, Dr. G. E. Cole. Soft toys were a main feature of the display. Many people, seeing similar displays of soft toys at all exhibitions are apt to under-estimate the underlying feature of this work which keeps a patient in close contact with her family.

An Instructress in Dressmaking is to be appointed, and later, an Instructress in Millinery. These two teachers will help greatly in rehabilitation of our patients.

The Patients' Library is very extensively used—books and journals are always available, and the Library itself is under the most efficient management of Miss E. Robartson, a patient who has thus been rehabilitated.

On the occasion of the Handicrafts Display, the Chief Health Officer, Dr. Cole, made a gift to the Library. This was spent in the purchase of Cookery books to be used as reference books.

Patients have had entertainment all through the year. The chief entertainment is weekly pictures on Wednesday evenings. Various concert parties visited the Sanatorium through the year. Summerlea Entertainers completed, in 1949, 50 years of entertainment in various institutions, including many years at Greenvale.

The staff have received special care all through the year. Daily Sick Parade is held. All new members of staff found to be Mantoux negative have been given B.C.G., and all members of staff are given X-ray examination at regular intervals.

The Staff Social Club has provided dances, card parties, and tennis tournaments here at the Sanatorium. The Men's Billiard Room has continued to give pleasure to the male staff.

The new four-storey brick ward gradually neared completion during 1949, and the superstructure of the additional wings of Nurses' quarters was commenced.

#### HEATHERTON SANATORIUM.

##### Bed State.

Occupied. (1.1.49)	Admissions. (31.12.49)	Discharges. 103	Deaths. 86	11
121	136			

Average stay—476 days.

*Treatment.*—Bed rest remains the basic and most valuable form of treatment; it is also the most expensive and tedious.

*Streptomycin* was available fairly freely, and was of particular value in the two categories of treatment:—

- (a) Lifesaving—mainly by permitting operation on patients otherwise unsuitable;
- (b) Palliative—in incurable cases with tuberculous laryngitis or excessive cough and toxæmia.

P.A.S.—The use of this drug had not commenced in the period under review.

*Artificial Pneumothorax*.—Between 20 and 25 patients were maintained on A.P. at any one time during the year. Acceptable pneumothorax was obtained in 12 new cases and 9 other cases were abandoned after a brief trial.

*Surgery*.—Major and minor surgery was carried out on Heatherton patients at Austin Hospital, and some major operations were also done at Alfred Hospital. In all, 6 thoracoplastics, 7 pneumonectomies, 1 lobectomy, and several minor procedures were carried out. One pneumonectomy patient died, but, as this group comprised patients of poor risk, and three (including the death) who were desperately ill, the result of surgery was extremely satisfactory.

*Social Club*.—The Social Club played a large part in looking after the patients' entertainment, providing films, competition, and shopping facilities. Numerous articles such as hair dryers and other cosmetic facilities were bought by the Club.

*Red Cross Society*.—This body has provided an excellent library for Up-patients with a ward service for Bed-patients, in addition to weekly drives and personal services for the patients. One of the most important of these is to arrange visits between husbands in other Sanatoria and their wives in Heatherton. The work of the Society is beyond praise.

#### AUSTIN HOSPITAL.

Although only 80 of the 140 beds provided in the Tuberculosis Section of the Hospital were available pending completion of additional staff quarters, the Hospital continued to function as the surgical centre for tuberculosis cases. Patients are transferred from Chalets and Sanatoria following weekly consultations between Departmental medical staff and members of the thoracic surgical teams. Approval was granted to the appointment of a third surgical team which was formed early in 1950.

A summary of surgical procedures undertaken in 1949 is shown hereunder:—

#### OPERATIONS AT AUSTIN HOSPITAL SANATORIUM WARDS—1949.

Type of Operation.	Total Number of Operations.	Patients.
Thoraeoplasty .. .. ..	87	46
Pneumonectomy .. .. ..	11	11
Lobectomy .. .. ..	5	5
Monaldi Drainage .. .. ..	6	5
Phrenic Crush .. .. ..	43	42
Phrenic Reerush .. .. ..	4	4
Phrenic Evulsion .. .. ..	3	3
Thoracoscopy .. .. ..	78	74
Bronchoscopy .. .. ..	128	126
Drainage of Empyema .. .. ..	1	1
Cavernostomy .. .. ..	1	1
Thoraecotomy .. .. ..	1	1
Post Pneumonectomy Thoracoplasty .. .. ..	12	12
Plastic to Empyema .. .. ..	1	1
Open Pneumonolysis .. .. ..	3	3
Right Flap Drainage .. .. ..	1	1
Extra Pleural Pneumothorax .. .. ..	1	1

During the year, 149 males and 166 females were admitted; 133 males and 153 females discharged; while 21 males and 3 females died. Admissions and discharges include patients transferred from and returned to Sanatoria and Chalets.

It is desired to express appreciation of the manner in which this unit is conducted, with particular reference to the Medical Superintendent (Dr. V. G. Bristow) and the Medical Officer (Dr. P. R. Bull).

#### MINT PLACE ANNEXE.

During this period (1st January, 1949 to 31st December, 1949) a total of 72 patients was admitted, of whom 10 were males, 53 females, and 9 adolescents. The average stay in days of patients at Mint Place Annexe was 259. There were 33 discharges in this period, 5 males, 24 females, and 4 adolescents.

There were 41 artificial pneumothoraces conducted, of whom a number became out-patients during the year, and continued to attend Mint Place Annexe for continuation of pneumothoraces.

The number of beds available was increased from 60 to 79 with the opening of further wards.

#### COUNTRY BED ACCOMMODATION.

No additional accommodation was made available during the year, although negotiations with the Warrnambool, Geelong, and Mooroopta Hospitals resulted in the respective hospitals agreeing to establish Chalets for tuberculous patients in 1950.

These units, in addition to providing accommodation for local cases, also afford facilities for admission of suitable patients from other areas.

The Department meets the full cost of maintenance, and also appoints a Visiting Physician to each Chalet.

Movements of patients during 1949 are shown in the statistical appendix.

#### REHABILITATION SECTION.

Medical Officer: Dr. J. O'Rourke.

During the first half of 1949, the Rehabilitation Section was not operating. After having assumed duty 1st July, 1949, the latter half of the year was spent in making contact with Sanatoria and establishing liaison with various organizations likely to be associated with the Section. These are listed below:—

##### Commonwealth—

Rehabilitation Section.

Employment Section (Disabled Persons' Branch).

##### State—

State Psychiatric Service.

Victorian Education Department.

Council for Adult Education.

Australian Red Cross Society.

Melbourne Technical School.

Apprenticeship Commission.

Australian Council Trade Unions.

University Department Social Studies.

Patients who had pressing problems of rehabilitation were interviewed. Special thanks is due to the Director of Education, Major-General Ramsay, in making available Correspondence Courses in Sanatoria, and the co-operation of the two Commonwealth branches engaged in similar work, as indicated above.

*Hostel*.—During the latter part of the year, a property was purchased in Toorak for the purpose of providing hostel accommodation for men discharged from Sanatoria, &c. The Australian Red Cross Society (Victorian Branch) agreed to manage the Hostel, the Department being responsible for any maintenance deficit.

Accommodation will be available for sixteen men, who will be required to pay £2 10s. weekly for full board and residence. No permanent boarders will be taken, as it is intended that stay should be limited to a maximum period of eighteen months.

## TUBERCULOSIS BRANCH.

Director of Tuberculosis .. E. V. Keogh, M.B.,  
B.S., F.R.A.C.P.

Deputy Director of Tuberculosis; H. M. James, M.B. et  
Diagnostic Services Ch.B.

Deputy Director of Tuberculosis; Dr. D. B. Rosenthal,  
Sanatoria and Chalets M.D., B.S., M.R.C.P.

Deputy Director of Tuberculosis; H L. Andrews, M.B.,  
Radiology B.S., D.D.R.

Tuberculosis Officer (Country) .. K. G. Kerr, M.B., B.S.,  
D.P.H.

Rehabilitation Medical Officer .. J. O'Rorke, L.R.C.P.,  
L.R.C.S.

Secretary .. E. R. H. Ebbs,  
A.F.I.A.

*Consultant Panel, Departmental Tuberculosis  
Committee.*

Professor P. MacCallum, M.A., M.Sc., M.B., Ch.B., D.P.H.,  
R.C.P.S., M.R.C.P., F.R.S.E., F.R.A.C.P.

Professor F. McF. Burnet, M.B., B.S., F.R.S., D.Sc.

Professor S. Rubbo, M.B., B.S., Ph.D., Dip.Bact., B.Sc.,  
M.P.S.

Sir W. S. Newton, M.D., F.R.A.C.P.

W. Newing, M.D., F.R.A.C.P.

C. H. Fitts, M.D., D.T.M., M.R.C.P., F.R.A.C.P.

W. W. S. Johnston, M.D., F.R.A.C.P.

A. Penington, M.D.

J. I. Hayward, M.D., M.S., F.R.C.S.

C. J. Officer Brown, M.D., F.R.C.S., F.R.A.C.S.

J. O'Sullivan, M.B., B.S., D.M.R.E., F.R.A.C.P., F.F.R.

K. Hallam, B.A., M.B., B.S., D.M.R.E.

C. F. MacDonald, M.B., B.S., D.M.R.E., F.R.A.C.P.,  
F.F.R.

J. B. D. Galbraith, M.D., F.R.A.C.P.

C. E. Eddy, D.Sc., F. Inst. of P.

*Institutions.*

*Sanatorium. Medical Superintendent.*

Gresswell .. D. B. Rosenthal, M.D., B.S.,  
M.R.C.P.

Greenvale .. Margaret Playle, M.B., B.S.

Heatherton .. B. Clerehan, M.B., B.S.

## VITAL STATISTICS.

## VICTORIA—1949.

Year.	Deaths.						
	Pulmonary Tuberculosis.			Non-Pulmonary Tuberculosis.			
	Male.	Female.	Total.	Male.	Female.	Total.	
1929	529	348	877	80	83	163	1,040
1930	482	406	888	99	74	173	1,061
1931	472	393	865	51	69	120	985
1932	465	348	813	72	66	138	951
1933	401	336	737	70	51	121	858
1934	419	334	753	76	60	136	889
1935	430	331	761	62	55	117	878
1936	394	368	762	63	45	108	870
1937	410	303	713	42	52	94	807
1938	371	306	677	41	46	87	764
1939	433	323	756	51	39	90	846
1940	436	291	727	35	49	84	811
1941	469	300	769	50	57	107	876
1942	460	331	791	46	42	88	879
1943	410	230	640	47	57	104	744
1944	422	257	679	41	33	74	753
1945	382	267	649	41	40	81	730
1946	404	246	650	32	29	61	711
1947	391	221	612	31	34	65	677
1948	367	214	581	36	24	60	641
1949	381	160	541	20	26	46	587

## ANNUAL DEATH RATE PER 1,000,000.

Year.	Pulmonary Tuberculosis.	Non-Pulmonary Tuberculosis.	Tuberculosis (All Forms).
1929	496	92	588
1930	498	97	595
1931	481	68	549
1932	450	76	526
1933	405	66	471
1934	411	74	485
1935	414	64	478
1936	412	59	471
1937	384	51	435
1938	363	47	409
1939	402	48	450
1940	383	44	427
1941	397	55	452
1942	402	45	447
1943	323	52	375
1944	340	37	377
1945	323	40	363
1946	330	34	364
1947	306	32	338
1948	278	29	307
1949	250	21	271

## BED POSITION—31ST DECEMBER, 1949.

—	Male.	Female.	Total.
Gresswell Sanatorium, Mont Park ..	192	..	192
Heatherton Sanatorium, Cheltenham ..	..	268	268
Greenvale Sanatorium, Broadmeadows ..	..	236	236
Mint Place Annexe, Melbourne ..	12	67	79
Austin Hospital, Heidelberg ..	84	44	128
Austin Hospital, Heidelberg (Children's Ward) ..	6	6	12
Dunstan Chalet, Royal Park ..	19	..	19
Eleanor Shaw Chalet, Royal Park ..	..	12	12
Bendigo Chalet, Bendigo ..	14	10	24
Ballarat Chalet, Ballarat ..	10	10	20
Mildura Chalet, Mildura ..	7	7	14
Hamilton Chalet, Hamilton ..	7	7	14
Horsham Chalet, Horsham ..	7	7	14
Wangaratta Chalet, Wangaratta ..	7	7	14
Sale (Ex. R.A.A.F. Hospital) ..	20	20	40
	385	701	1,086

*Country Chalets.*

Chalet.	Visiting Physician.
Ballarat ..	G. T. James, M.B., B.S., M.D.
Bendigo ..	W. Rosenthal, M.B., B.S.
Hamilton ..	C. E. Sawrey, M.B., B.S., M.R.A.C.P.
Horsham ..	T. V. Walpole, M.B., B.S.
Mildura ..	J. S. Bothroyd, M.B., B.S., M.D., M.S.
Sale ..	G. J. B. Baldwin, M.B., B.S., M.R.A.C.P.
Wangaratta ..	J. B. McMiken, M.B., Ch.B., M.D., D.D.R.

VITAL STATISTICS—*continued.*

## BUREAU ATTENDANCES—METROPOLITAN AND COUNTRY

Bureaux.	New Cases Applying.	Total Attendances Old and New Cases.	X-ray Examinations.		A.P. Refills Attendances.
			Films.	Screens.	
Central ..	9,126	31,656	25,028	2,664	1,512
Ballarat ..	192	887	636	1	108
Bendigo ..	561	2,688	1,131	219	182
Geelong ..	192	1,209	481	164	130
Prahran ..	6,125	7,304	1,001	..	..
	16,196	43,744	28,277	3,048	1,932

## BUREAU SERVICES—VISITING NURSE.

Bureaux.			First Visits.	Revisits.	
Central ..	..	..	947	8,736	
Ballarat ..	..	..	20	786	
Bendigo ..	..	..	47	552	
Geelong ..	..	..	40	377	
Prahran ..	..	..	38	146	
Total ..	..	..	1,092	10,597	

## MANTOUX TESTS—METROPOLITAN—1949.

Age.	Number Tested.	Number Positive.	Percentage Positive.	
1 to 5 years ..	3,473	48	1.1	
6 to 13 years ..	19,697	1,022	5.2	
14 to 18 years ..	2,294	247	10.8	
Total ..	25,464	1,317	5.2	

VITAL STATISTICS—*continued.*

## SANATORIA ACTIVITIES.

Institutions.	Admissions.		Discharges.		Deaths.	
	Male.	Female.	Male.	Female.	Male.	Female.
<i>Metropolitan.</i>						
Austin ..	149	166	133	153	21	3
Greenvale ..	..	106	..	90	..	15
Gresswell ..	160	..	146	..	8	..
Heatherton ..	..	103	..	77	..	11
Mint Place Annexe ..	10	62	5	28	4	6
Dunstan Chalet ..	21	..	11	..	4	..
Eleanor Shaw ..	..	11	..	14	..	1
Total ..	330	448	295	362	33	36
<i>Country.</i>						
Ballarat ..	9	16	10	10	1	2
Bendigo ..	17	12	10	8	5	2
Hamilton ..	8	10	6	8	..	3
Horsham ..	13	11	9	8	..	..
Mildura ..	9	13	15	7	1	1
Sale ..	17	17	10	11	4	4
Wangaratta ..	10	11	12	12	..	2
Total ..	103	90	73	64	11	14
Total in Metropolitan and Country ..	433	538	368	426	44	50

## DIVISION OF CHEST X-RAY SURVEYS.

## Annual Report for Year Ending 31st December, 1949.

The year 1949 saw some 200,000 films taken by this Department. By the end of the year six miniature radiography machines were in almost constant operation. Behind these, three X-ray units were in use at the Central Office taking large films and three more were available for country follow-up work. In all, 21,500 full-sized films were taken. Steady progress has been made in the X-ray work associated with Mantoux testing of children. This specialization of machines is desirable, because, although our mass X-ray machines are designed to be capable of taking large films if it should be necessary, such machines are in such short supply that it is unsound to occupy their available working time in large film work when other less specialized and more readily available units can be used for this purpose.

Follow-up work has been rendered more difficult by the fact that the Director, during this year, has had only the assistance of a part-time medical officer. The loyal co-operation of the nursing, technical, and clerical staff has enabled, in spite of these drawbacks, an enormous amount of work to be done in both the preliminary screening and the necessary follow-up investigations. The work of Dr. Kenny in expanding the scope of bacteriological investigation was particularly valuable.

The Division has enjoyed the continued co-operation of the panel of reporting radiologists who have expressed themselves as generally satisfied with the quality of the films submitted. If the vacancies for full-time or half-time radiologists can be filled it should considerably improve the general situation.

The work at fixed Centres has held at a fair level, though a steady dropping off in the numbers passing through these may be expected as the programme of metropolitan surveys becomes more intensified and effective. Surveys of factories, business houses, Government, and semi-Governmental Departments have expanded, and it is interesting to note that the percentage of tuberculosis found here appears to be slightly less than in the general population, even with the better coverage obtained.

As in the past, considerable attention has been paid to special groups, nevertheless, it is felt that the cause of tuberculosis prevention will best be served by the repeated screening of the general population with more frequent attention to special community groups. This

is particularly stressed because at least 65 per cent. of the healed and active cases of tuberculosis found have no symptoms sufficient to cause them to attend a hospital or consult a doctor.

Special attention has been paid during the year to mining communities and to those industries where there might be occupational risks affecting the lungs. A more intensive silicosis survey, in co-operation with the Department of Mines, is planned. Shortage of vehicles is preventing this being developed at present.

There has been considerable amelioration in the staff position, but the lack of certain key personnel, such as a Division Secretary, and X-ray Engineer for servicing of machines, and Team Managers, has been severely felt.

With the increased means at our disposal the numbers of the public presenting themselves for examination, in spite of the satisfactory over-all total for the year, has not equalled our capacity. This is serious for two reasons; first, it is probable, as pointed out by Bradbury in the "Lancet" in 1948, that the percentage of tuberculosis is directly proportional to the percentage of the community X-rayed, and that coverage less than 70 per cent. is liable to miss more tuberculosis than is found; secondly, "Idle Capacity" can seriously add to costs. It can also be demoralizing to staff. The two factors of "Poor Coverage" and "Idle Capacity" have not assumed serious proportions so far with the limited number of machines available.

A pleasing feature of the year's working has been the increasing appreciation of the medical profession of the value of our work. One finds a most encouraging willingness to co-operate and exchange information. It is hoped that the coming year will see a closer liaison between this Division and the Thoracic Units of the great hospitals, with such bodies as the Repatriation Hospital, Cancer Institute, and Base Hospitals, as well as with Chest Specialists and the medical profession generally.

It is also hoped that the staff improvement in quality can be maintained because it is obvious that only by technical excellence can radiology achieve that accuracy not only in diagnosis but also in prognosis, of which it is undoubtedly capable.

## DIVISION OF X-RAY SURVEYS.

	Miniature Films.						Large Films.						T.B. Abnormalities.				Non-T.B. Abnormalities.			
	Males.		Females.		Total.	Adults.		Children.		Total.	Proved Active.	Possibly Active.	Healed or Quiescent.	Total.	Cardiac.	Pleural.	Other.	Total.		
	Adults.	Children.	Adults.	Children.		First L.F.	Re-ray.	First L.F.	Re-ray.											
Alexandra ..	634	31	571	54	1,290	76	3	22	..	101	..	2	17	19	8	8	3	19		
Ballarat ..	8,538	597	10,371	664	20,170	1,572	20	460	4	2,056	8	89	325	412	186	126	153	465		
Buninyong ..	..	..	..	..	..	..	..	7	..	7	..	..	1	1	..	..	..	..		
Cobden ..	..	..	..	..	..	..	..	42	..	42	1	1	3	5	..	..	..	..		
Echuca ..	1,685	261	1,712	272	3,930	356	4	78	..	438	2	8	54	64	30	17	22	69		
Fitzroy ..	3,501	161	2,947	211	6,820	410	43	193	20	666	5	19	119	143	41	50	36	127		
Geelong ..	7,643	576	7,393	586	16,198	1,039	24	257	4	1,324	16	34	271	321	113	135	95	343		
Hamilton ..	2,261	204	2,244	215	4,924	218	..	4	..	222	1	7	41	49	35	34	29	98		
Heidelberg ..	2,565	142	3,200	210	6,117	193	3	191	6	393	2	23	92	117	46	46	37	129		
Kerang ..	1,455	206	1,450	243	3,354	194	..	62	..	256	..	9	39	48	9	17	16	42		

## GENERAL SURVEYS.

Alexandra ..	634	31	571	54	1,290	76	3	22	..	101	..	2	17	19	8	8	3	19
Ballarat ..	8,538	597	10,371	664	20,170	1,572	20	460	4	2,056	8	89	325	412	186	126	153	465
Buninyong ..	..	..	..	..	..	..	..	7	..	7	..	..	1	1	..	..	..	..
Cobden ..	..	..	..	..	..	..	..	42	..	42	1	1	3	5	..	..	..	..
Echuca ..	1,685	261	1,712	272	3,930	356	4	78	..	438	2	8	54	64	30	17	22	69
Fitzroy ..	3,501	161	2,947	211	6,820	410	43	193	20	666	5	19	119	143	41	50	36	127
Geelong ..	7,643	576	7,393	586	16,198	1,039	24	257	4	1,324	16	34	271	321	113	135	95	343
Hamilton ..	2,261	204	2,244	215	4,924	218	..	4	..	222	1	7	41	49	35	34	29	98
Heidelberg ..	2,565	142	3,200	210	6,117	193	3	191	6	393	2	23	92	117	46	46	37	129
Kerang ..	1,455	206	1,450	243	3,354	194	..	62	..	256	..	9	39	48	9	17	16	42

## DIVISION OF X-RAY SURVEYS—continued.

	Miniature Films.						Large Films.						T.B. Abnormalities.				Non-T.B. Abnormalities.			
	Males.		Females.		Total.	Adults.		Children.		Total.	Proved Active.	Possibly Active.	Healed or Quiescent.	Total.	Cardiac.	Pleural.	Other.	Total.		
	Adults.	Children.	Adults.	Children.		First L.F.	Re-ray.	First L.F.	Re-ray.											

## GENERAL SURVEYS—continued.

Kew.. .	2,529	122	3,189	129	5,969	437	9	214	5	665	5	25	149	179	38	32	43	113
Mansfield ..	640	39	520	21	1,220	83	..	36	1	120	..	1	13	14	4	7	7	18
Moorabbin (Population)	3,457	267	4,257	234	8,215	513	36	187	155	891	4	12	134	150	43	60	38	141
Morwell ..	1,154	46	942	63	2,205	110	..	42	..	152	1	10	28	39	15	12	15	42
Northcote ..	5,924	354	7,195	391	13,864	725	47	223	11	1,006	5	26	253	284	101	79	75	255
Queen Victoria Hospital	2,287	55	2,074	47	4,463	927	115	126	153	1,321	18	46	152	216	36	31	33	100
Rutherglen ..	888	100	945	102	2,035	..	..	..	..	..	..	10	21	31	30	8	12	50
Sacred Heart Hospital	2,705	..	3,253	..	5,958	232	64	32	35	363	12	12	74	98	42	20	38	100
Sale ..	1,132	171	1,223	236	2,762	1	..	..	..	1	..	..	4	4	23	4	1	28
Sandringham ..	4,470	293	3,628	354	8,745	831	105	469	199	1,604	7	27	187	221	104	61	71	236
Seymour ..	816	52	801	45	1,714	116	8	8	1	133	..	4	20	24	13	11	13	37
South Melbourne	4,095	432	2,971	386	7,884	593	139	45	203	980	18	28	112	158	41	44	39	124
Swan Hill ..	2,479	287	2,479	302	5,547	416	8	97	3	524	1	12	65	78	49	36	29	114
Traralgon ..	1,497	72	1,378	79	3,026	156	..	43	..	199	..	16	32	48	19	20	8	47
Warrnambool ..	3,669	361	4,088	428	8,546	386	1	186	4	577	6	19	95	120	98	42	63	203
Wodonga ..	739	70	670	60	1,539	..	..	..	..	..	..	12	9	21	10	14	9	33
Wood's Point ..	89	1	61	1	152	47	..	..	..	47	..	..	3	3	3	2	11	16
Yallourn ..	2,119	57	1,339	49	3,564	191	..	56	..	247	2	12	56	70	18	18	9	45
Yarrawonga ..	872	86	873	79	1,910	..	..	..	..	..	..	12	14	26	22	10	18	50
Yea .. .	449	15	448	18	930	94	..	11	..	105	1	6	20	27	10	8	4	22
Total ..	70,292	5,058	72,222	5,479	153,051	9,916	629	3,091	804	14,440	115	482	2,403	3,000	1,187	952	937	3,076

## ARMY ESTABLISHMENTS.

Albert Park Barracks	655	..	4	..	659	31	..	..	..	31	..	..	15	15	2	2	4	8
Balcombe Camp	463	..	..	..	463	2	..	..	..	2	..	..	..	..	..	..	2	2
Puckapunyal Camp	583	..	16	..	599	8	..	..	..	8	..	..	1	1	..	..	..	..
Victoria Barracks	476	..	47	..	523	25	2	..	..	27	2	2	4	8	1	6	4	11
Total ..	2,177	..	67	..	2,244	66	2	..	..	68	2	2	20	24	3	8	10	21

## COMMONWEALTH GOVERNMENT ESTABLISHMENTS.

Aeronautical Research Laboratories	316	..	48	..	364	13	..	..	..	13	..	..	3	3	2	3	2	7
Ammunition Factory	599	..	111	..	710	..	..	..	..	..	..	3	12	15	2	10	6	18
Commonwealth Clothing Factory	159	..	234	..	393	16	..	..	..	16	..	1	6	7	1	3	2	6
Defence Research Laboratories	870	..	228	..	1,098	65	..	..	..	65	..	2	29	31	9	12	5	26
D.A.P. (Fishermen's Bend)	1,359	..	152	..	1,511	102	13	..	..	115	3	3	31	37	14	14	12	40
Ordnance Factory	943	..	155	..	1,098	..	..	..	..	..	..	5	33	38	10	13	10	33
T.A.A. (City) ..	466	..	226	..	692	56	6	..	..	62	1	2	14	17	3	10	3	16
T.A.A. and D.A.P. (Essendon)	1,085	41	28	2	1,136	169	9	3	..	181	1	2	20	23	4	7	10	21
Total ..	5,797	41	1,182	2	7,022	421	28	3	..	452	5	8	148	161	45	72	50	167

DIVISION OF X-RAY SURVEYS—*continued.*

	Miniature Films.						Large Films.						T.B. Abnormalities.				Non-T.B. Abnormalities.			Total
	Males.		Females.		Total.	Adults.		Children.		Total.	Proved Active.		Possibly Active.	Healed or Quiescent.	Total.	Cardiac.	Pleural.	Other.		
	Adults.	Children.	Adults.	Children.		First L.F.	Re-ray.	First L.F.	Re-ray.		First L.F.	Re-ray.								
INDUSTRIAL AND FACTORY SURVEYS.																				
Handley's (No. 2 Survey)	328	..	106	..	434	12	..	..	..	12	..	..	1	1	2	2	3	7		
Holeproof ..	281	29	218	15	543	47	5	1	..	53	..	2	4	6	1	6	7	14		
Malcolm Moore's	410	..	37	..	447	20	2	..	..	22	2	..	6	8	..	2	6	8		
Metropolitan Gas Co.	272	..	154	..	426	31	2	..	..	33	..	5	10	15	..	3	2	5		
Moorabbin and District	1,098	25	496	17	1,636	147	21	10	3	181	1	5	28	34	5	10	13	28		
Radio Corporation	781	..	200	..	981	75	1	..	..	76	1	1	9	11	5	6	7	18		
Russell Manufacturing (No. 2 Survey)	270	..	90	..	360	..	..	..	..	..	..	2	6	8	1	1	2	4		
Shell Company	372	..	178	..	550	22	..	..	..	22	1	2	4	7	1	..	..	1		
Sutex ..	93	..	127	..	220	5	..	..	..	5	..	1	2	3	1	..	..	1		
Total ..	3,905	54	1,606	32	5,597	359	31	11	3	404	5	18	70	93	16	30	40	86		
MISCELLANEOUS.																				
Good Shepherd Convent, Oakleigh	..	..	133	..	133	..	..	..	..	..	..	..	..	..	4	..	2	6		
Total ..	..	..	133	..	133	..	..	..	..	..	..	..	..	..	4	..	2	6		
FIXED CENTRES.																				
Mooroopna ..	1,690	..	1,925	..	3,615	173	2	28	..	203	1	7	25	33	13	8	5	26		
Prahran ..	2,922	..	2,508	..	5,430	205	..	..	..	205	..	18	14	32	40	..	174	214		
Williamstown ..	2,468	..	2,257	..	4,725	52	..	126	92	270	..	8	31	39	24	..	62	86		
Total ..	7,080	..	6,690	..	13,770	430	2	154	92	678	1	33	70	104	77	8	241	326		

## CENTRAL T.B. BUREAU.

Miniature Films = 2,399; Large Films = 89.

## SUMMARY.

*A.—Miniature Films.*

General Surveys ..	..	..	..	..	153,051
Army Establishments ..	..	..	..	..	2,244
Commonwealth Government Establishments ..	..	..	..	..	7,022
Industrial and Factory Surveys ..	..	..	..	..	5,597
Miscellaneous ..	..	..	..	..	133
Fixed Centres ..	..	..	..	..	13,770
Central T.B. Bureau ..	..	..	..	..	2,399
Total ..	..	..	..	..	184,216

*B.—Large Films—continued.*

Examinees X-rayed for First Time—			
Miniature Films ..	..	..	184,216
Large Films (Without Previous Miniature Film) ..	..	..	3,023
Total ..	..	..	187,239

*C.—Proved Active T.B.*

General Surveys ..	..	..	..	115
Army Establishments ..	..	..	..	2
Commonwealth Government Establishments ..	..	..	..	5
Industrial and Factory Surveys ..	..	..	..	5
Fixed Centres ..	..	..	..	1
Total ..	..	..	..	128

*D.—Possibly Active T.B.*

General Surveys ..	..	..	..	482
Army Establishments ..	..	..	..	2
Commonwealth Government Establishments ..	..	..	..	8
Industrial and Factory Surveys ..	..	..	..	18
Fixed Centres ..	..	..	..	33
Total ..	..	..	..	543

*Total Number of Films—*

Miniature Films ..	..	..	184,216
Large Films ..	..	..	21,631
Total ..	..	..	205,847

## SUMMARY—continued.

## E.—Healed or Quiescent T.B.

General Surveys	..	..	2,403
Army Establishments	..	..	20
Commonwealth Government Establishments	..	..	148
Industrial and Factory Surveys	..	..	70
Fixed Centres	..	..	70
Total	..	..	2,711
F.—Total T.B.			
General Surveys	..	..	3,000
Army Establishments	..	..	24
Commonwealth Government Establishments	..	..	161
Industrial and Factory Surveys	..	..	93
Fixed Centres	..	..	104
Total	..	..	3,382

## G.—Cardiac Abnormalities.

General Surveys	..	..	1,187
Army Establishments	..	..	3
Commonwealth Government Establishments	..	..	45
Industrial and Faetory Surveys	..	..	16
Miscellaneous	..	..	4
Fixed Centres	..	..	77
Total	..	..	1,332

## H.—Pleural Abnormalities.

General Surveys	..	..	952
Army Establishments	..	..	8
Commonwealth Government Establishments	..	..	72
Industrial and Factory Surveys	..	..	30
Fixed Centres	..	..	8
Total	..	..	1,070

## I.—Other Non-T.B. Abnormalities.

General Surveys	..	..	937
Commonwealth Government Establishments	..	..	50
Army Establishments	..	..	10
Industrial and Faetory Surveys	..	..	40
Miseellaneous	..	..	2
Fixed Centres	..	..	241
Total	..	..	1,280

## J.—Total Non-T.B. Abnormalities.

General Surveys	..	..	3,076
Army Establishments	..	..	21
Commonwealth Government Establishments	..	..	167
Industrial and Faetory Surveys	..	..	86
Miseellaneous	..	..	6
Fixed Centres	..	..	326
Total	..	..	3,682

## T.B. ABNORMALITIES BY SEX AND AGE-GROUP.

## A.—PROVED AND POSSIBLY ACTIVE T.B.

(Expressed in percentage of Proved and Possibly Active T.B. found during period under review).

Age-Group.	Males.	Females.	Total.
11-20	..	..	%
21-30	..	..	7·581
31-40	..	..	7·713
41-50	..	..	8·234
51-60	..	..	12·672
61-70	..	..	13·498
71-80	..	..	6·887
80 and over	..	..	3·856
			%
			2·754
			12·369
			16·468
			9·338
			22·010
			20·385
			9·613
			5·233
			..

## T.B. ABNORMALITIES BY SEX AND AGE GROUPS—continued.

## B.—HEALED OR QUIESCENT T.B.

(Expressed in percentage of Healed or Quieseent T.B. found during period under review).

Age-Group.	Males.	Females.	Total.
11-20	..	..	%
21-30	..	..	3·999
31-40	..	..	7·595
41-50	..	..	13·323
51-60	..	..	12·238
61-70	..	..	7·281
71-80	..	..	2·711
80 and over	..	..	0·154
			%
			1·541
			5·267
			10·146
			12·935
			25·109
			6·661
			1·859
			0·232
			2·940
			9·266
			17·741
			26·258
			13·942
			4·570
			0·386

## C.—TOTAL T.B.

(Expressed in perecentage of Total T.B. found during period under review).

Age-Group.	Males.	Females.	Total.
11-20	..	..	%
21-30	..	..	1·827
31-40	..	..	4·811
41-50	..	..	7·795
51-60	..	..	13·215
61-70	..	..	12·484
71-80	..	..	7·064
80 and over	..	..	2·923
			0·121
			%
			1·827
			6·760
			9·805
			12·241
			23·750
			12·910
			4·689
			0·303

## NON T.B. ABNORMALITIES BY SEX AND AGE-GROUP.

## A.—CARDIAC.

(Expressed in percentage of Cardiae Abnormalities found during period under review).

Age-Group.	Males.	Females.	Total.
11-20	..	..	%
21-30	..	..	1·897
31-40	..	..	3·677
41-50	..	..	1·542
51-60	..	..	7·473
61-70	..	..	9·727
71-80	..	..	9·257
80 and over	..	..	4·744
			0·948
			%
			2·965
			7·947
			18·267
			28·469
			23·847
			9·370
			1·778

## B.—PLEURAL.

(Expressed in percentage of Pleural Abnormalities found during period under review).

Age-Group.	Males.	Females.	Total.
11-20	..	..	%
21-30	..	..	2·340
31-40	..	..	8·892
41-50	..	..	15·131
51-60	..	..	15·600
61-70	..	..	15·444
71-80	..	..	8·268
80 and over	..	..	2·028
			0·312
			0·156
			%
			1·560
			12·480
			24·491
			24·960
			21·472
			10·296
			2·340
			0·312

## C.—OTHER.

## T.B. AND NON T.B. ABNORMALITIES.

PERCENTAGE OF TOTAL NUMBER X-RAYED DURING PERIOD 1ST JANUARY, 1949 TO 31ST DECEMBER, 1949.

	Number X-Rayed.	Proved and Possibly Active T.B.		Healed or Quiescent T.B.		Total T.B.		Non T.B.	
		Number.	Percentage.	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.

## Adults and Children—Miniature and Large Films.

General Surveys—	Metropolitan ..	Country ..	Number X-Rayed.	% Active T.B.		% Healed or Quiescent T.B.		% Total T.B.		% Non T.B.	
				Number.	Percentage.	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.
Metropolitan ..	69,627	294	0·423	1,272	1·826	1,566	2·249	1,325	1·901	1,434	1·659
Country ..	86,427	303	0·351	1,131	1·308	1,751	2·205	1,671	2·398	1,434	1·662
Total ..	156,054	597	0·382	2,403	1·539	3,000	1·921	3,076	1·971	3,076	1·971
Commonwealth Government Establishments ..	7,022	13	0·185	148	2·107	161	2·292	167	2·398	93	1·662
Industrial and Faactory Surveys	5,597	23	0·411	70	1·251	86	1·530	86	1·530	86	1·530
Grand Total ..	168,673	633	0·375	2,621	1·553	3,254	1·928	3,329	1·973	3,329	1·973

## Children.

Metropolitan ..	Country ..	Number X-Rayed.	16	0·297	132	2·451	148	2·748	24	0·463
Total ..			8,160	25	0·306	101	1·235	126	16	0·196
Total ..		13,544	41	0·303	233	1·720	274	2·023	40	0·295

## Adults.

General Surveys—	Metropolitan ..	Country ..	Number X-Rayed.	278	0·433	1,140	1·774	1,418	2·207	1,301	2·025
	Metropolitan ..	Country ..	Number X-Rayed.	278	0·355	1,030	1·303	1,303	1·658	1,735	2·216
Total ..	142,510		556	0·390		2,170	1·523	2,726	1·913	3,036	2·130
Commonwealth Government Establishments ..	7,022	13	0·185	148	2·107	161	2·292	167	2·378	86	1·536
Industrial and Faactory Surveys	5,597	23	0·411	70	1·251	93	1·662	86	1·536	86	1·536
Grand Total ..	155,129		592	0·382		2,388	1·532	2,980	1·914	3,289	2·120

N.B.—The following tables have been omitted from above calculations as this Division played no part in the follow-up work.

A.—Army Establishments; B.—Miscellaneous; C.—Fixed Centres.

## MINIATURE FILMS BY AGE-GROUPS.

## CONSOLIDATION OF NORTHCOTE AND WARRNAMBOOL SURVEYS.

(T.B. abnormalities expressed in percentage of number X-rayed in each Age-group).

Age-Group.	Number of Films in each Age-group.		Proved and Possibly Active T.B.		Healed or Quiescent T.B.		Total T.B.	
	No.	Percentage Age of total attendances.	No.	Percentage Age involved.	No.	Percentage Age.	No.	Percentage Age.
11-20 years ..	3,896	18·152	3	0·076	6	0·152	9	0·228
21-30 years ..	5,769	26·878	8	0·138	25	0·433	33	0·571
31-40 years ..	4,926	22·952	10	0·203	54	1·096	64	1·299
41-50 years ..	3,654	17·024	11	0·301	76	2·079	87	2·380
51-60 years ..	2,213	10·310	12	0·501	77	3·479	89	3·980
60 and over ..	1,005	4·684	7	0·697	48	4·776	55	5·473
Total ..	21,463	100·000	51	1·916	286	12·015	337	13·931

## MANTOUX POSITIVE CHILDREN.

## CONSOLIDATION OF BALLARAT, HEIDELBERG, KEW, NORTHCOTE, AND WARRNAMBOOL SURVEYS.

	Total Number X-rayed.	Within Normal Limits.	Proved and Possibly Active T.B.	Healed or Quiescent T.B.	Total T.B. Abnormalities.	Total Non-T.B. Abnormalities.	
Number ..	% ..	% ..	% ..	% ..	% ..	% ..	
Number ..	1,274	1,139	16	91	107	28	
Percentage ..	..	..	89·40	1·26	7·14	8·40	2·20

## REPORT OF THE DIRECTOR OF MATERNAL, INFANT AND PRE-SCHOOL WELFARE, 1949-50.

### INTRODUCTION.

When the Infant Welfare Division of the Department of Health was set up in 1926 the main objective was to save infant life, for in that year Victoria lost 55·6 per 1,000 births.

The extent to which this original purpose has been accomplished is revealed in the vital statistics giving the infantile mortality rate of 21·89 per 1,000 live births for 1949. This figure is the lowest recorded for this State and is the lowest published in the world.

Our efforts must obviously be increased to assure further reduction in the future and these efforts may be served well by the present Division.

Following the establishment of the Maternal and Child Hygiene Branch of the Department of Health under the Ministry of Health Act in 1943, this Division was organized into three sections—Pre-natal, Infant and Pre-school Welfare.

The aim of the Division has been to increase health teaching thereby furthering adequate pre-natal care and instruction and raising the standard of mental and physical health of infants and children in the widest possible field.

The necessity for co-ordinating the services ministering to the needs of the child at the one level was fully realized by the late Dr. Vera Scantlebury Brown, Director of this Division from its inception until her death in 1945. She fully appreciated and planned for successful work by the co-ordination of these three sections under one Department. Her wisdom and foresight in putting this Division on its present basis cannot be doubted and there are many indications that the community generally is becoming increasingly aware of this wise and sound planning.

The child must not only possess sound physique but also good mental, emotional and social adjustment, therefore the years from 0 to 6 are regarded as one span of development and it is absolutely essential that continuity is maintained throughout from pre-natal to the end of pre-school age.

Centres set up for health teaching have been known as Baby Health or Infant Welfare Centres and the majority of mothers still think that attendance during the first twelve months of the child's life is all that is required. There has been a tendency to remove the baby out of his natural setting instead of considering him a part or unit of the whole family pattern in correct relationship to other members of the family. Now we have reached the stage of accepting the right relationship and in viewing it accurately, we may plan to cope with behaviour problems which arise in the toddler stage.

The necessity for care of the child commencing in the pre-natal period still needs to be emphasized and this Report contains evidence of action in this respect in the Pre-natal Section.

Recognition of all these lacks has prompted members of the Infant Welfare Section of the College of Nursing to press for a revision of the Infant Welfare Course by the Nurses Board. A wider training including more provision for pre-school teaching and opportunities for experience in field work is asked for.

Mothercraft nurses too have become more aware of the need for experience with toddlers. One training school which cares only for young children is arranging for trainees to have this experience at another approved institution and another school desires similar opportunities.

The post-graduate courses in pre-school training at the Kindergarten Training College, Kew, have undoubtedly provided stimulus for further training, and an added impetus has been given by the return from overseas of officers who have seen the advantages of a wider service.

Certain municipalities have appointed experienced Kindergarteners to organize pre-school services. These officers, known as pre-school Child Development Officers, have demonstrated convincingly the additional service that can be given to toddlers by trained Pre-school teachers at Infant Welfare Centres, complementing that provided by the Infant Welfare Sister.

This year Miss Beth Stubbs, who holds this position at Kew, was chosen as the Vera Scantlebury Brown Scholar. Miss Stubbs has left for America where she will take a course at Columbia University and also specialize in infant and parent work at the Merrill Palmer School at Detroit. She has been awarded a student assistantship in the infant laboratory for the academic year, her interest in this age group having been stimulated by her experience at Kew.

From this it will be seen that the activities of the Department dovetail together and officers of the various sections are very conscious of the necessity for providing a unified service and the impossibility of removing any section from the division and still providing a complete programme of child care.

### *Pre-Natal Instruction.*

Our officers give short talks to mothers attending Ante-Natal Clinics. This affords an opportunity for much preventive teaching, not only with the present pregnancy, but with the many related problems that arise.

It is desirable that such teaching should be further extended, and I suggest that a "pilot post-natal clinic" be established in an industrial area. Such a clinic would give the Department first-hand knowledge of the problems which confront the mother following her return from hospital. Not the least of these problems is the maintenance of lactation.

### *Breast Feeding Survey.*

Breast feeding figures for the State are still decreasing. A breast feeding survey was undertaken by the Department with the co-operation of the Hospitals and Charities Commission.

This survey was planned to discover whether the giving of complementary feeding to infants during the first few days of life predisposes to complete artificial feeding before the normal weaning age. From the data obtained it could not be concluded that the giving of complements at an early age contributed to early weaning. At least 60 per cent. of babies weaned by the age of three months were stated to have received no complements by the time they were discharged.

The following were some of the reasons given for early weaning :—

<i>Health—28%</i>		<i>No.</i>
Mother's health ..	..	74
Abnormal labour ..	..	2
Condition of nipples ..	..	77
Health of baby ..	..	24
		—
Total ..	..	177

<i>Mother's Attitude—25%</i>		
Unwilling to feed ..	..	104
History of artificial feeding ..	..	50
		—
Total ..	..	154

<i>Social Condition—3%</i>		
Adoption ..	..	12
Excess work ..	..	4
		—
Total ..	..	16

It is likely that a multiplicity of causes is active in a great number of cases.

While no definite conclusions could be drawn from the above survey, it had a definite value as pilot for future investigations.

#### *Home Helps.*

This service has been established at Kew, Hawthorn, South Melbourne, St. Kilda and Ararat. At Kew five to six housekeepers are employed and a residential hostel is provided. A supervisor of the service has been appointed. Hawthorn has an enthusiastic voluntary committee administering this service and six housekeepers are employed. Extension of the service and provision of a hostel are receiving consideration. South Melbourne has two regular housekeepers.

During the year additional government assistance was given. The subsidy is now on a basis of two-thirds of the net cost subject to a maximum departmental liability of £125 for each housekeeper employed full-time.

One suggestion put forward for establishment of Home Help Services is the appointment of an officer in each Municipality to organize the service. Consideration might be given to providing a subsidy for such appointments. The appointment of a full-time officer for this Division to supervise the organization of the scheme is also desirable.

#### VITAL STATISTICS.

Vital statistics supplied by the Government Statist indicate the present trends.

TABLE I.—INFANT MORTALITY IN VICTORIA, 1910–1949.

Period.	Rate per 1,000 Births.			Period.	Rate per 1,000 Births.		
	Greater Melbourne.	Remainder of State.	Victoria.*		Greater Melbourne.	Remainder of State.	Victoria.*
1910–14	84·2	64·9	73·8	1936	44·1	40·7	42·3
1915–19	76·2	55·4	66·1	1937	37·1	36·3	36·7
1920–24	71·6	58·6	65·3	1938	34·1	34·3	34·2
1925	60·2	53·7	57·0	1939	32·3	38·9	35·6
1926	61·6	49·5	55·6	1940	39·7	39·2	39·5
1927	62·5	49·4	56·1	1941	34·6	38·1	36·2
1928	56·8	54·5	55·6	1942	43·8	38·9	41·6
1929	50·5	43·9	47·2	1943	34·1	38·2	35·8
1930	50·7	42·3	46·5	1944	31·0	33·3	32·0
1931	48·0	41·4	44·5	1945	26·87	29·61	28·03
1932	47·7	38·7	43·0	1946	27·04	27·32	27·16
1933	40·9	40·0	40·4	1947	26·82	25·57	26·28
1934	48·2	41·4	44·6	1948	23·77	24·12	23·93
1935	43·0	39·5	41·2	1949	20·27	23·83	21·89

\* See Diagram I.

## VICTORIA. INFANT MORTALITY RATE 1900-1949

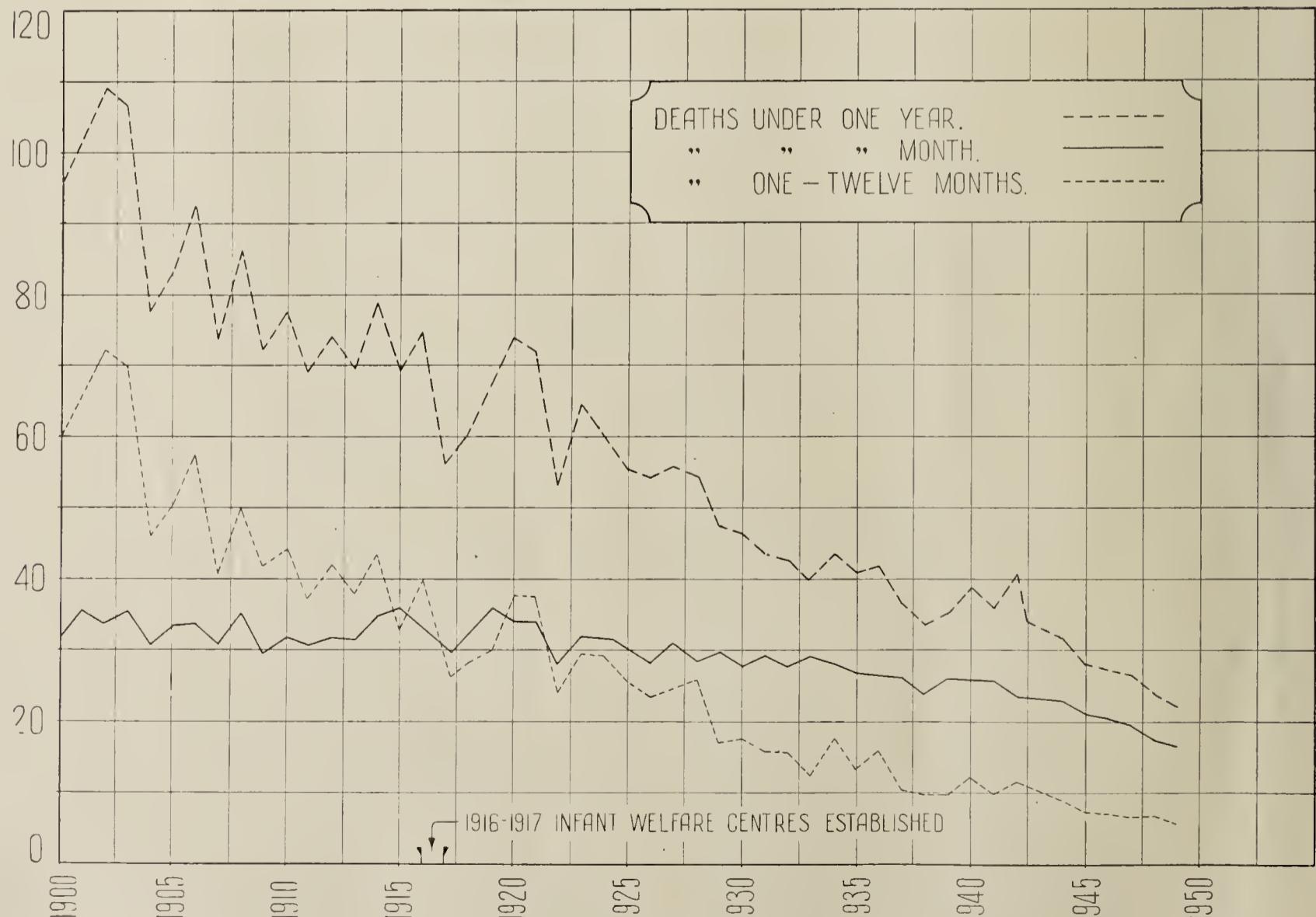


TABLE 2.—NUMBER AND PERCENTAGE OF DEATHS DUE TO DIFFERENT CAUSES UNDER ONE MONTH.

	No.	Percentage.
Epidemic, endemic and infections .. ..	Nil	Nil
Bronchitis, broncho-pneumonia and pneumonia	45	5.90
Diarrhoeal diseases .. .. ..	10	1.31
Malformations .. .. ..	97	12.71
Congenital debility .. .. ..	13	1.70
Prematurity .. .. ..	333	43.64
Injury at birth .. .. ..	129	16.91
Early infancy .. .. ..	112	14.68
Other diseases .. .. ..	17	2.23
Violence .. .. ..	7	0.92

Deaths Under One Month.

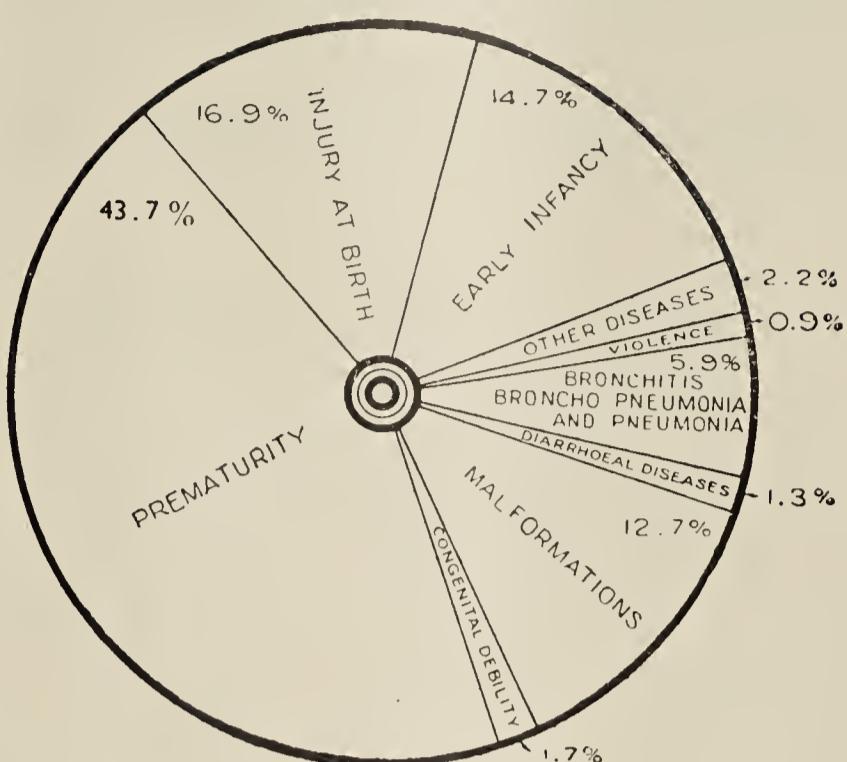


TABLE 3.—NUMBER AND PERCENTAGE OF DEATHS DUE TO DIFFERENT CAUSES UNDER ONE YEAR.

	No.	Percentage.
Epidemic, endemic and infections .. ..	24	2.34
Bronchitis, broncho-pneumonia and pneumonia	119	11.60
Diarrhoeal diseases .. .. ..	33	3.22
Malformations .. .. ..	158	15.40
Congenital debility .. .. ..	18	1.75
Prematurity .. .. ..	339	33.04
Injury at birth .. .. ..	131	12.77
Early infancy .. .. ..	113	11.01
Other diseases .. .. ..	72	7.02
Violence .. .. ..	19	1.85

Deaths Under One year.

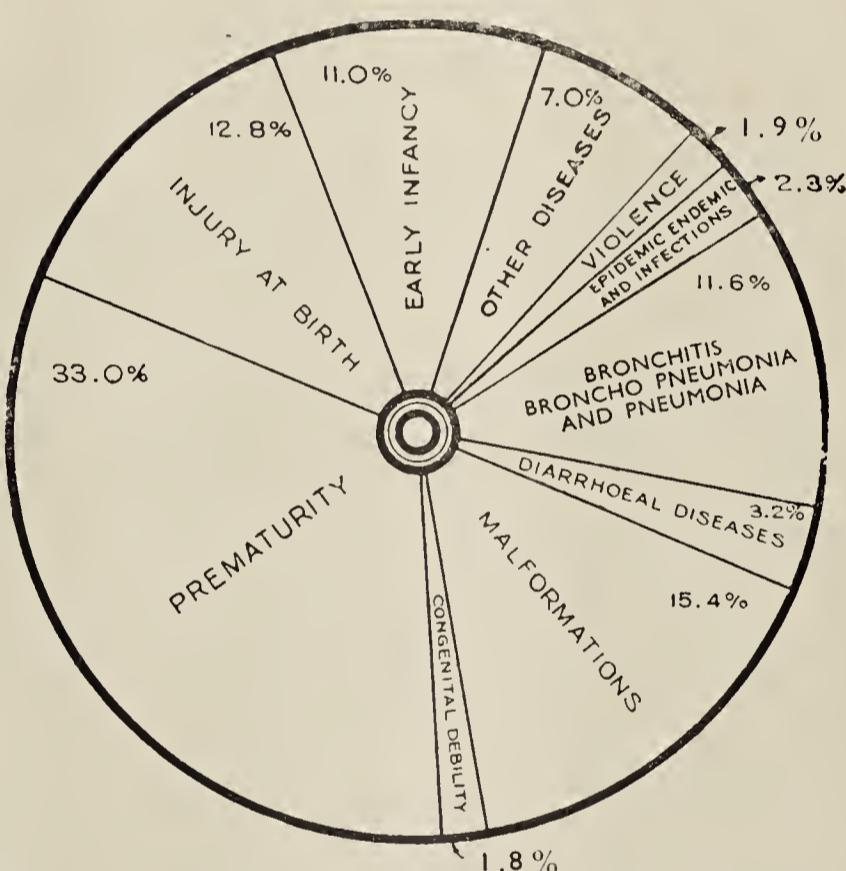


TABLE 4.—PERCENTAGES OF DEATHS DUE TO PRE-NATAL AND NATAL CAUSES.

	Under One Month.		Under One Year.	
	No.	Percentage.	No.	Percentage.
<i>A.—Pre-Natal and Natal.</i>				
Malformations .. .. .. .. ..	97	12.71	158	15.40
Prematurity .. .. .. .. ..	333	43.64	339	33.04
Congenital debility .. .. .. ..	13	1.70	18	1.75
Injury at birth .. .. .. ..	129	16.91	131	12.77
Early infancy .. .. .. ..	112	14.68	113	11.01
<i>B.—Other than Pre-Natal and Natal.</i>				
Epidemic, endemic, and infections.. .. .. ..	Nil	Nil	24	2.34
Bronchitis, broncho-pneumonia, and pneumonia .. .. .. ..	45	5.90	119	11.60
Diarrhoeal diseases .. .. .. ..	10	1.31	33	3.22
Other diseases .. .. .. ..	17	2.23	72	7.02
Violence .. .. .. ..	7	0.92	19	1.85

In the above figures there has been a still further decrease in the infantile death rate for Victoria for 1949, and this decrease is also shown in the number of neo-natal deaths, particularly those due to prematurity.

Great attention has been focussed on this problem and following the formation of the committee on prematurity

by the Hospitals Commission some publicity was given to the importance of ante-natal care and adequate provision for premature babies after birth.

Tables showing incidence of prematurity at the Women's and Queen Victoria Hospitals and a comparison of Victorian figures with those of England and Wales are given below.

TABLE 5.—STATISTICS ON PREMATURITY AT THE QUEEN VICTORIA HOSPITAL, MELBOURNE, JULY 1, 1948, TO JUNE 30, 1949; 2,699 DELIVERIES, 2,735 INFANTS BORN.

Observation.	Full-term Infants.	Premature Infants.	Previable Infants.	Total.
Number of infants born .. .. .. .. ..	2,559 (93·57%)	162 (5·92%)	14 (0·51%)	2,735
Neo-natal deaths .. .. .. .. ..	17 (38·63%)	19 (43·19%)	8 (18·18%)	44 <sup>(1)</sup>
Stillbirths .. .. .. .. ..	28 (50·92%)	21 (38·18%)	6 (10·9%)	55 <sup>(2)</sup>

<sup>(1)</sup> 1·66 per cent. of the total of 2,699 deliveries.

<sup>(2)</sup> 2·04 per cent. of the total of 2,699 deliveries.

TABLE 6.—INCIDENCE OF PREMATURITY AT THE WOMEN'S HOSPITAL, MELBOURNE.

Year.	Total Births.	Premature Births.	Premature Births per Hundred Live Births.
1945 .. .. .. .. ..	3,583	251	7·03
1946 .. .. .. .. ..	4,056	234	5·77
1947 .. .. .. .. ..	5,509	391	7·10
1948 .. .. .. .. ..	5,048	225	4·46

TABLE 7.—COMPARISON OF DEATHS DUE TO PREMATURITY IN ENGLAND AND WALES WITH VICTORIA.

Year.	Neo-Natal Deaths.	Neo-Natal Deaths Due to Prematurity.	Deaths Due to Prematurity per 1,000 Live Births (Rate).	Rate, Including 50 Per Cent. Stillbirths Associated with Immaturity. <sup>(1)</sup>
<i>England and Wales.</i>				
1938 .. .. .. .. ..	17,572	8,984	14·47	33
1945 .. .. .. .. ..	16,910	7,116	10·4	24
<i>Victoria.</i>				
1938 .. .. .. .. ..	750	339	11·40	26
1945 .. .. .. .. ..	870	393	9·61	21
1948 .. .. .. .. ..	790	352	7·63	17

<sup>(1)</sup> Ministry of Health Report, Number 94, 1949.

A study of premature babies in Queen Victoria Hospital, Women's Hospital and a number of Metropolitan and

Country Hospitals reveals the following figures in regard to infantile mortality:—

TABLE 8.—PREMATURITY—INCIDENCE AND MORTALITY IN CITY AND COUNTRY HOSPITALS.

Years.		Total Deliveries.	Premature Births.	Deaths.	Death Rate per 100 Live Premature Births.
<i>The Women's Hospital.</i>					
1945	..	3,655	173	68	39·3
1946	..	4,056	164	60	36·6
1947	..	5,509	318	73	22·9
1948	..	5,251	286	72	25·2
1949	..	5,484	300	51	17·0
<i>Queen Victoria Hospital.</i>					
1945	..	1,299	96	20	21·04
1946	..	1,500	169	31	18·3
1947	..	2,593	134	20	14·9
1948	..	2,363	134	33	24·6
1949	..	2,735	162	19	11·7
<i>Twelve Metropolitan Hospitals.</i>					
1945	..	..	769	177	23·02
1946	..	..	736	204	27·71
1947	..	..	801	272	33·95
<i>Twenty-eight Country Hospitals.</i>					
1945	..	..	183	46	25·1
1946	..	..	217	57	26·2
1947	..	..	208	49	24·03

These figures may be compared with figures given in the British Ministry of Health report. The above hospital records show that the mortality rate for premature infants varies between 11 and 39 per 100. This is contrasted with the mortality rate among full-term infants of 7 to 25 per 1,000.

#### Detailed report of the three sections of the Division.

##### PRE-NATAL SECTION.

The above tables show the necessity for extending our pre-natal services and more particularly the need for giving the widest publicity to the importance of ante-natal care, not only from the angle of medical supervision, but also from the angle of preventive teaching.

Such teaching may be given through the following channels:—

1. Infant Welfare Centres (as a service complementary to that given by patient's own doctor).
2. Medical Adviser.
3. Hospital Ante-Natal Clinic.
4. Municipal Ante-Natal Supervision Clinic by:—  
Medical Officer ;  
Lecturing Sister.
5. Radio Talks.
6. Literature.

More could be accomplished if regular radio sessions were available to the Department.

The provision of the Pre-Natal Booklet has supplied a great need and numerous requests for it are received. At the recent Country Women's Association Conference 1,000 copies were distributed.

The community is becoming more aware of the importance of ante-natal exercises and the value of relaxation clinics. It is desirable that a trained physiotherapist for such a service should be provided. An initial clinic could be set up in conjunction with a municipal Ante-Natal Supervision Clinic.

Two new Medical Supervision Clinics have been set up, one at Preston, the other at Coburg. The establishment of these two clinics should relieve in some measure the large clinic at Northcote. At this Centre talks by the Mothercraft Lecturing Sister, Miss Schinckel, have been given to the mothers. These have been very successful, opportunity being given to mothers for discussion of their problems.

Extension of this service to provide a post-natal clinic for mothers as a pilot service (mentioned earlier in the report) is strongly advocated.

##### Co-operation with Metropolitan Hospitals

The closest co-operation between the Department and the staff of midwifery hospitals, medical, social workers and clerical, has been maintained. The hospitals have made their records available to Departmental Officers so that complete results of cases have been entered on departmental cards. These cards are kept on a punch card system so that much valuable information is recorded.

Dr. Jean White and Dr. Gladys Ferguson have joined the staff as part-time Ante-Natal Medical Officers. Dr. Joan Mowlan resigned owing to her appointment as full-time Medical Officer at Janefield.

TABLE 9.—ATTENDANCES OF EXPECTANT MOTHERS FOR YEAR ENDED 31ST DECEMBER, 1949.

(a) *Municipal-Metropolitan Pre-Natal Medical Supervision Centres.*

Name of Centre.	Number of Patients.	Number of Visits to Centres.
Collingwood .. .. .. ..	196	888
Fairfield .. .. .. ..	114	483
Fitzroy .. .. .. ..	179	975
Hawthorn .. .. .. ..	216	1,002
Northcote .. .. .. ..	378	1,547
Prahran .. .. .. ..	404	2,001
Preston .. .. .. ..	82	213
Richmond .. .. .. ..	260	1,308
Sandringham .. .. .. ..	179	807
South Melbourne .. .. .. ..	287	1,393
Sunshine .. .. .. ..	210	638
Total .. .. .. ..	2,505	11,255

(b) *Attendances of Expectant Mothers for Pre-Natal Hygiene at Victorian Infant Welfare Centres.*

	1947-48.	1949.
Number of individual cases .. ..	5,646	5,828
Number of new cases .. ..	4,177	4,179
Total number of consultations .. ..	12,880	12,976

### INFANT HEALTH SECTION.

The number of Infant Welfare Centres on 31st December, 1949, was 398. Of these 121 were metropolitan, 262 country, plus 15 Centres in mobile circuits.

One of the new Centres opened during the year was that at Yallourn, built and equipped by the State Electricity Commission. This Centre, placed in a most attractive setting, will provide both ante-natal and infant welfare services for mothers. The Centre is staffed by two Sisters and the Ante-natal Clinics will be under the supervision of the Commission's Medical Staff. Thus Yallourn will have a complete service, pre-natal, infant welfare, and pre-school, and a complete record of each child from the pre-natal period on, will thus be available.

In the Budget for 1949-50 the Government provided funds to subsidize Municipalities in respect of transport costs of Infant Welfare Services incurred by the provision of vehicles in rural areas. A subsidy of £700 was approved for the initial cost of the vehicle where mileage travelled was not less than 100 a week. A depreciation allowance of £50 per annum and an increase in the transport subsidy were also approved. This financial assistance has been of much help in the extension of the service and in the fuller utilization of the Sisters time in some country districts.

Many Sisters have written to the Department expressing their appreciation of the provision of a car. The number of vehicles subsidized and approved to 31st December was 14, but the effects of the subsidy are not indicated in this report as figures given are only to the end of the calendar year when subsidy had been in operation for less than six months. In the last six months many

developments have taken place, e.g., the formation or extension of the following circuits:—

1. Pyrenees Circuit, providing a service for Skipton, Linton, Beaufort, Avoca, Snake Valley, Lexton, and Talbot.
2. Loddon Valley Group, comprising Dunolly, Ingleswood, Cairn Curran and Maldon.
3. Extension of Port Fairy and Koroit Services to the Minhamite Shire giving service for Macarthur, Orford, Bessiebelle, and in the Belfast Shire for Yambuk.
4. Extension of services in Glenelg and Wannon Shires, to Dergholm, Lake Mundi, Strathdownie and Tulse Hill.
5. Mortlake, Mount Rouse Circuit, with Centres at Mortlake, Woorndoo, Dundonell, Ellerslie, Penshurst, Dunkeld and Glenthompson (shortly commencing service).

#### *Prospective New Services.*

6. South Barwon and Bellarine Shire are planning to give a service for Portarlington, Drysdale, Ocean Grove, in addition to Centres established in South Barwon Shire.

The number of shires not contributing to an infant welfare service has been considerably reduced.

There are now 196 Sisters employed in Infant Welfare Centres. Difficulty has been experienced in obtaining staff for country centres owing to the high cost and lack of suitable accommodation available. A new award for Infant Welfare Sisters has just been determined by the Hospital Nurses Board and this should encourage Sisters to take Country Centres.



Yallourn Infant Welfare Centre.

TABLE 10.—DEVELOPMENT OF INFANT WELFARE SERVICES IN VICTORIA.  
(Comparative Figures.)

		1917-18.	1926-27.	1947-48.	1949. (Calendar Year)
Number of birth notifications received during year .. .. ..	.. .. ..	.. .. ..	.. .. ..	43,062	43,841
Number of babies responding as a result of such notifications .. .. ..	.. .. ..	.. .. ..	.. .. ..	27,543	29,326
Number of new babies on roll .. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	46,723	48,009
Number of individual babies at Centres—					
(a) under twelve months .. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	48,152*	49,837*
(b) over twelve months (including those over two years) .. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	52,875*	56,015*
Total individual babies and children at Centres .. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	913 25,735	93,772†	98,854†
Total number of attendees of babies and children at Centres .. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	4,116 192,142	989,490	961,195
Nurses' visits to homes .. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	1,407 62,535	87,446	92,233
Number of babies referred to doctor .. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	11,588	11,566
Number of babies referred to hospital .. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	1,798	1,929
Number of mothers referred to doctor .. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	1,888	1,933
Number of mothers referred to hospital .. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	510	534
Telephone consultations .. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	37,416	38,010

\* Including transfers.

† Excluding transfers.

TABLE 11.—NON-RESPONSES TO NOTIFICATIONS OF BIRTHS INVITATIONS.

*Analysis of Reasons given by Infant Welfare Centre Nurses for Non-responses to Notifications of Births Invitations.*

Cause of Non-response—	%
Visiting other Centres .. .. ..	18.07
Babies referred to Correspondence Scheme .. .. ..	8.30
Moved from district .. .. ..	8.03
Resident beyond Municipality .. .. ..	3.19
Babies too young to attend .. .. ..	9.74
Address unknown .. .. ..	2.61
Disinterested .. .. ..	19.36
Deaths, including stillbirths .. .. ..	8.70
Other causes .. .. ..	22.00

INFANT WELFARE CORRESPONDENCE SCHEME.

The Correspondence Scheme of the Department continues its successful work, details of which are given below:—

Invitations sent—	
(a) First .. .. ..	2,855
(b) Second .. .. ..	1,469
Responses—	
(a) First invitation .. .. ..	1,335
(b) Second invitation .. .. ..	555
Non-responses (cards returned)—	
(a) Attending Centre .. .. ..	301
(b) Babies died .. .. ..	18
(c) Disinterested .. .. ..	24
Expectant mothers enrolled .. .. ..	118
Total number of ante-natal letters sent .. .. ..	705
Personal letters answered .. .. ..	3,212
Progress letters sent .. .. ..	39,895
Number of children enrolled since inauguration .. .. ..	16,379
Number of letters posted for year .. .. ..	48,016

EMERGENCY HOUSING AREAS.

Infant Welfare Centres conducted at Camp Pell and Watsonia continue to give a valuable service.

A Medical Officer attends the Centre at Camp Pell one morning a week and arrangements are made for the immunization of children against diphtheria and the giving of whooping cough vaccine.

BUILDING GRANTS.

In the first year of operation, 1948-49, £80,000 was set aside for this purpose and in the second year, 1949-50, a further £40,000 was made available on the estimates. Claims are paid on a £ for £ basis up to £1,000.

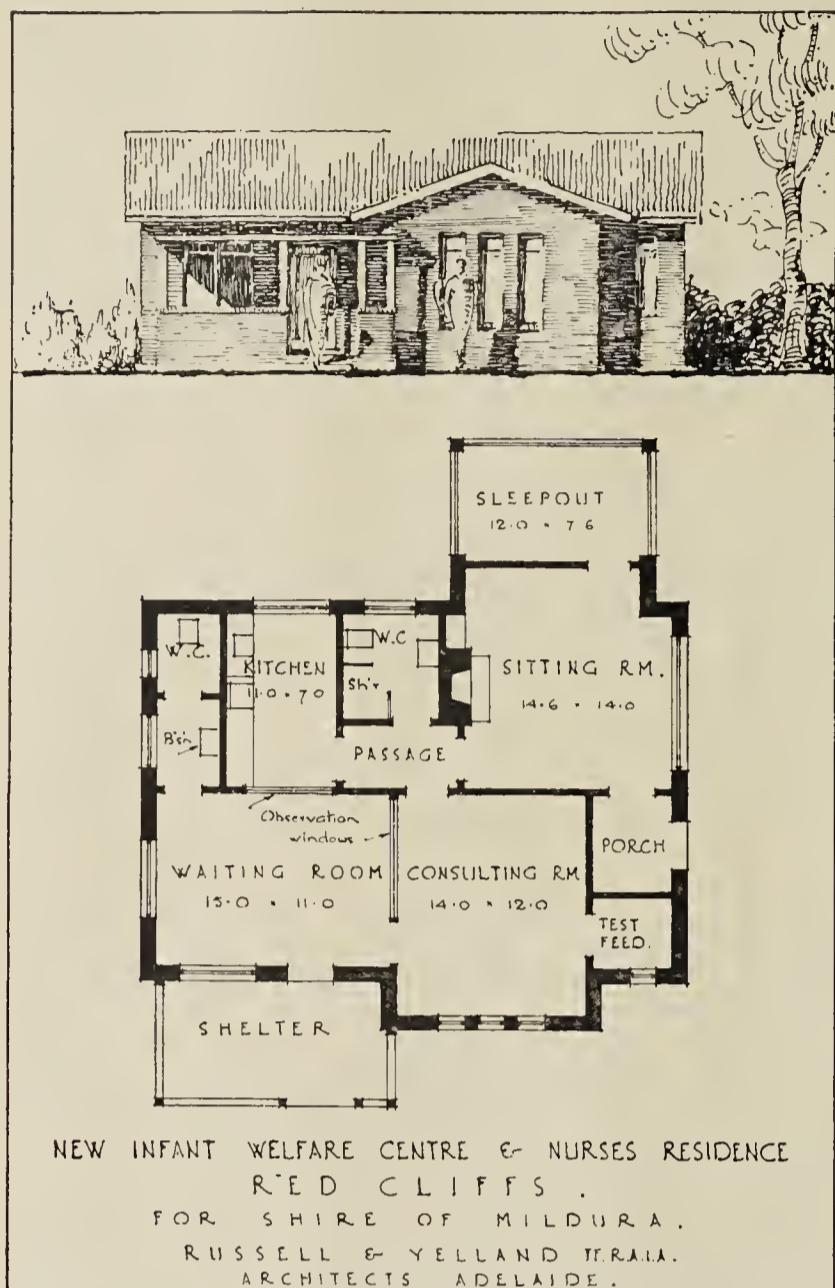
Building grants approved for 40 Metropolitan and 37 Country Centres given hereunder.

	1948.	1949.	Total.
<i>Metropolitan.</i>			
Infant Welfare Centres .. .. ..	9	11	20
Combined Infant Welfare and Pre-school Centres .. .. ..	3	2	5
Pre-school Centres .. .. ..	11	25	36
Crèches .. .. ..	1	2	3
Total .. .. ..	24	40	64

	Country.
Infant Welfare Centres .. .. ..	14
Combined Infant Welfare and Pre-school Centres .. .. ..	2
Pre-school Centres .. .. ..	8
Crèches .. .. ..	0
Total .. .. ..	24
	37
	61

The total number of building grants approved since 1st July, 1948 was 125.

A sketch and plan of one of the country centres which received a grant is given below:—



#### VEHICLE SUBSIDY.

Approval was given for fourteen vehicle subsidies during the year ended 31st December, 1949.

#### LITERATURE.

Leaflets and pre-natal booklets are distributed to all Centres.

A booklet "Child Care" replacing the old Manual has been re-edited by Dr. Kelso. This should meet a real need for it gives much advice on the infant and pre-school child and contains two valuable sections by Dr. Jean Macnamara on Posture Fundamentals, Feet and Footwear.

#### TRAINING.

The efficiency of the infant welfare service largely depends on the high standard maintained by the four Infant Welfare Training Schools—Victorian Baby Health Centres Association, Tweddle Hospital, Foundling Hospital, and Presbyterian Babies' Home. The subsidies to these schools were increased this year.

The Government has also made available to the Victorian Baby Health Centres Association the Carlton Home for adaptation for a training school. When remodelled this building will provide for four premature babies, two delicate babies, ten artificially fed babies, and

ten breast-fed babies with their mothers. This service is for the benefit of mothers leaving hospital. The School should provide accommodation for training ten Infant Welfare Sisters and ten Mothercraft Nurses; provision will also be made for one or two Sisters to take a refresher course. In addition, the large area of ground available should permit of further extensions.

#### SCHOLARSHIPS.

Four scholarships for each period of training have been approved by the Government. The first four were allocated in November.

The number of Infant Welfare Nursing Students trained per annum during the last three years is as follows:—

Training School.	Number of Trainees.		
	1946-47.	1947-48.	Calendar Year 1949.
Presbyterian Babies Home ..	13	14	12
"Tandarra" Foundling Hospital ..	10	19	20
Tweddle Baby Hospital ..	18	17	19
Victorian Baby Health Centres Association Training School ..	29	28	30

The total number of Infant Welfare Sisters registered with the Nurses Board, Victoria, at the 31st December, 1949, was 1,321.

#### MOTHERCRAFT NURSES.

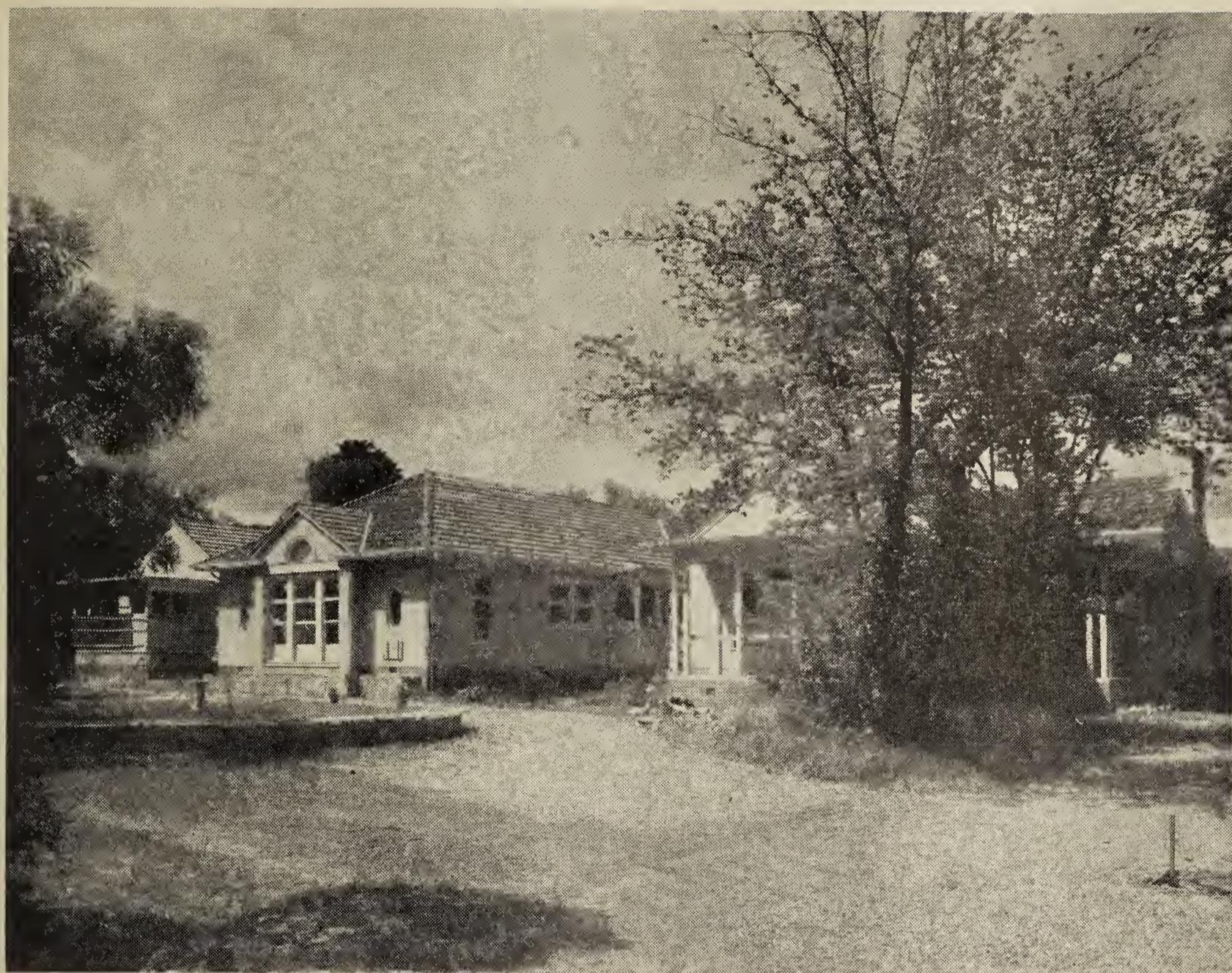
This has been a momentous year for in December, 1949, the Mothercraft Nurses Registration Bill was passed providing for the Registration of Mothercraft Nurses with the Department of Health. This has been sought for some time by Mothercraft Nurses and should give them a status in the community which the service they have given well merits.

Regulations in regard to training and registration have been drawn up after consultation with the Matrons of Training Schools and the Mothercraft Nurses' Council. These are now awaiting Government gazettal.

The appointment of a registrar for Mothercraft Nurses has also been recommended.

The Mothercraft Training Schools continue to give a valuable service and a £1,000 subsidy for training has been made available to these schools provided conditions regarding building, staffing, programme and equipment are complied with.

In November, a new Mothercraft Home was opened in Mont Albert-road, Canterbury. This will be conducted by the Grey Sisters. A new building has been erected which provides for mothers, infants, and toddlers in the most modern way. One wing is devoted to tired mothers, the centre to accommodation for babies, including prematures, and the other wing gives day and night accommodation for toddlers. In another portion of the grounds a room has been converted for emergency day-care and a toilet and kitchen conforming to requirements added. Yet another smaller house provides for teaching mothers and mothercraft nurses the care of a small home. This institution should provide a wonderful service for it is not only helping mothers in emergency but is setting out to give constructive teaching on preventive care.



"Mountfield," Mother and Child Care Centre, conducted by the "Grey Sisters."

There are now nine approved Mothercraft Training Schools, as follows :—

Training School.	Number of Trainees.	
	1947-48.	1949.
Bethany Babies' Home, Geelong .. ..	6	8
Foundling Hospital, Berry-street, East Melbourne .. .. ..	15	12
St. Joseph's Foundling Hospital, Broadmeadows	21	22
Methodist Babies' Home, Copelan-street, South Yarra .. .. ..	13	10
Presbyterian Babies' Home, 19 Canterbury-road, Camberwell .. ..	14	15
St. Gabriel's Church of England Babies' Home, Balwyn .. .. ..	13	13
Victorian Baby Health Centres' Association Training School, Swanston-street, Carlton	0	0
Tweddle Baby Hospital, Barkly-street, Footscray .. .. ..	10	12
"Mountfield", Mont Albert-road, Canterbury	0	0

The Department of Health Examination for Mothercraft Nurses was inaugurated in 1930 and by the end of December, 1949, 1,448 candidates had satisfactorily passed this State Examination. Two such examinations have been held annually, 92 passed during 1949.

#### PRE-SCHOOL MOTHERCRAFT COURSE.

The course for Pre-school Mothercraft Nurses held in 1949 was not fully attended but a number of applications have been received for the course now being held.

Five Mothercraft Nurses received Department of Health Certificates during the year 1949, bringing the total who have received Certificates since the course was inaugurated to 86.

The establishment of more Mothercraft Training Schools particularly in large provincial towns is urgently needed. The course is popular and most training schools have long waiting lists. There is a great demand for Mothercraft Nurses who provide a service for private homes, crêches, and residential nurseries, nurseries of midwifery hospitals, and occasionally for pre-school play centres.

Attention must be given to extension of training schools before any increase in crêche or day nurseries can be considered as trained personnel for such centres is in very short supply.

#### MOTHERCRAFT NURSES' BUREAU.

This Bureau continues to function very satisfactorily although there have been some changes in staff.

As has been the case for some time past, only a small proportion of the requests for nurses could be met. During the year, 1,126 cases were booked but nurses could only be obtained for 320. When the Mothercraft Nurses Act comes into effect the Department should keep in contact with nurses more easily.

More training schools are still needed but some slight increase in trainees may be possible in some schools by arranging for pre-school experience at other approved centres.

"Mothercraft Today", a new publication by Mothercraft Nurses, is serving a very useful purpose. It provides many helpful articles and keeps nurses in touch with activities of interest to them.

#### WORK OF DEPARTMENTAL STAFF.

Regular inspections of all Centres have been carried out by the staff. In addition a number of visits have been paid to country areas in connection with the establishment of new Municipal Circuits. Regular visits have also been paid to Training Schools, Holiday Homes and Crêches. A number of Council Meetings, Annual Meetings, and Public Meetings have been attended, and addresses given as required.

*Details for the Year Ending 31st December, 1949.*

Surveys concerning establishment of new Centres ..	17
--	----

#### Inspections.

Prospective Infant Welfare Centres ..	.. 37
Metropolitan Infant Welfare Centres ..	.. 178
Country Infant Welfare Centres ..	.. 77
Training Schools ..	.. 13
Holiday Homes, Crêches, &c. ..	.. 44
Addresses and Lectures, Public Meetings, and Conferences ..	.. 204
Mothercraft lectures in schools ..	.. 167

#### Publications and Compilation of Records.

Preparation, revision, and distribution of literature, pamphlets, booklets and posters.

Reception and analysis of Quarterly and Annual Reports from Pre-natal, Infant Welfare, Pre-school Centres and Crêches.

#### Lecturing in Schools.

One of the most valuable services provided is that given by the lecturing Sisters who undertake lectures in Mothercraft in the State and Secondary Schools. Such a service is much appreciated. The girls sit for an examination at the end of the course and a certificate is given to successful candidates. A course of lectures was given by a Departmental Sister at nineteen Metropolitan Schools and to the senior girls at the Children's Welfare Department, Royal Park. A Sister from the Victorian Baby Health Centres Association also lectured at 47 schools in the metropolitan area.

Sisters in country centres are encouraged to give Mothercraft Lectures in State Schools. These lectures were given at Warrnambool, Casterton and Maryborough, and in 1950, will also be given at Numurkah, Colac, Swan Hill, Tatura, Donald and Birchip.

#### BREAST FEEDING ANALYSIS.

The feedings of infants at three months of age were studied by Infant Welfare Inspectors, who noted the type of feeding of 7,982 infants attending 152 Infant Welfare Centres during the year 1949.

These are compared with the feedings recorded on the record cards of 31,281 infants at six months of age attending Infant Welfare Centres.

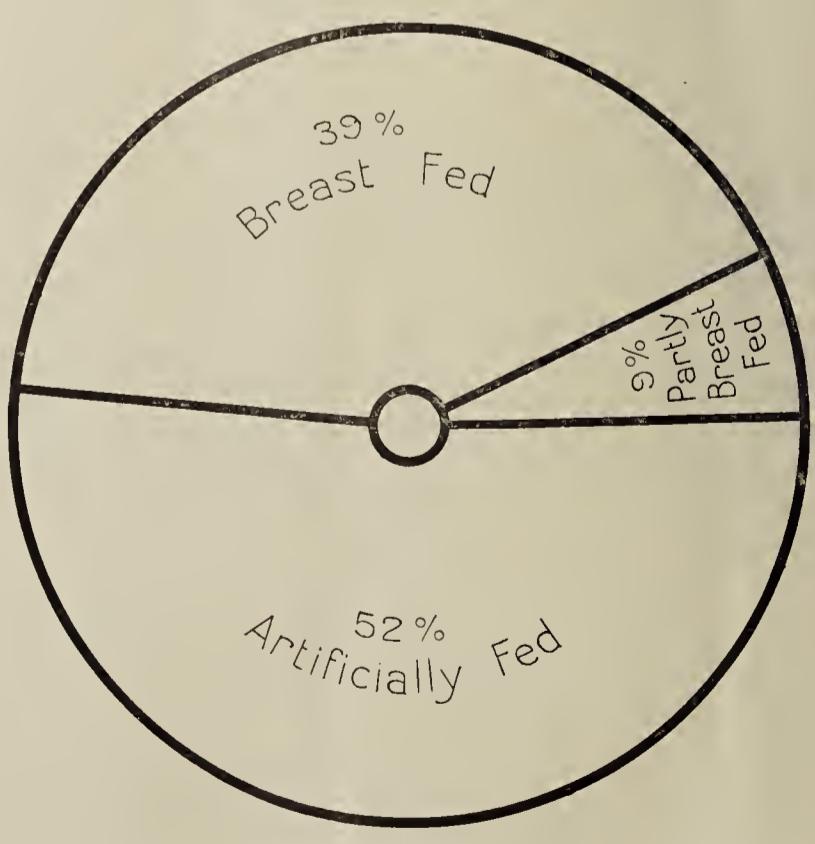
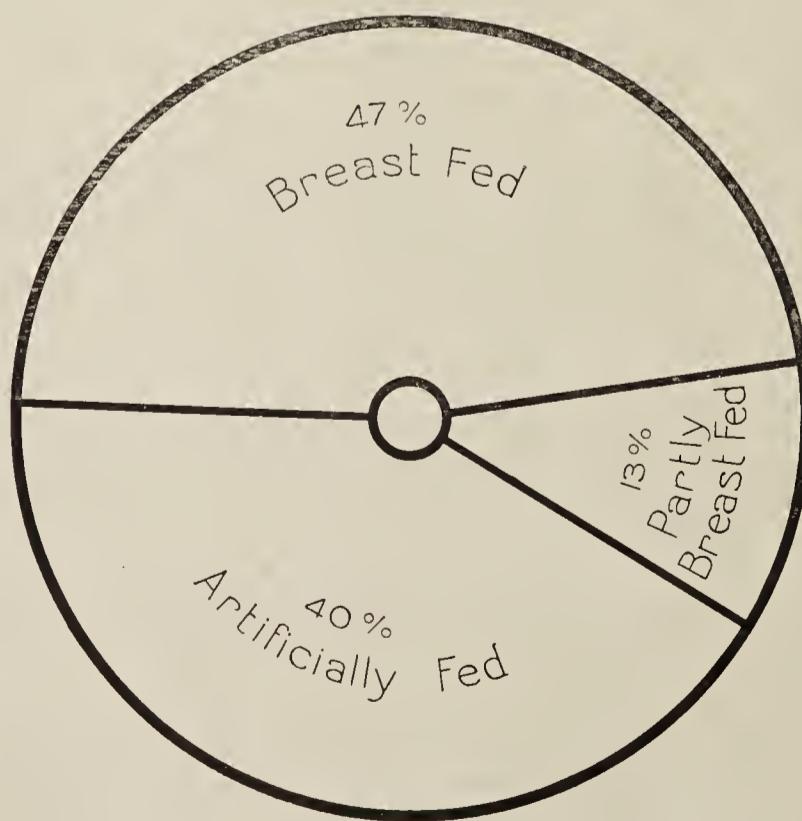
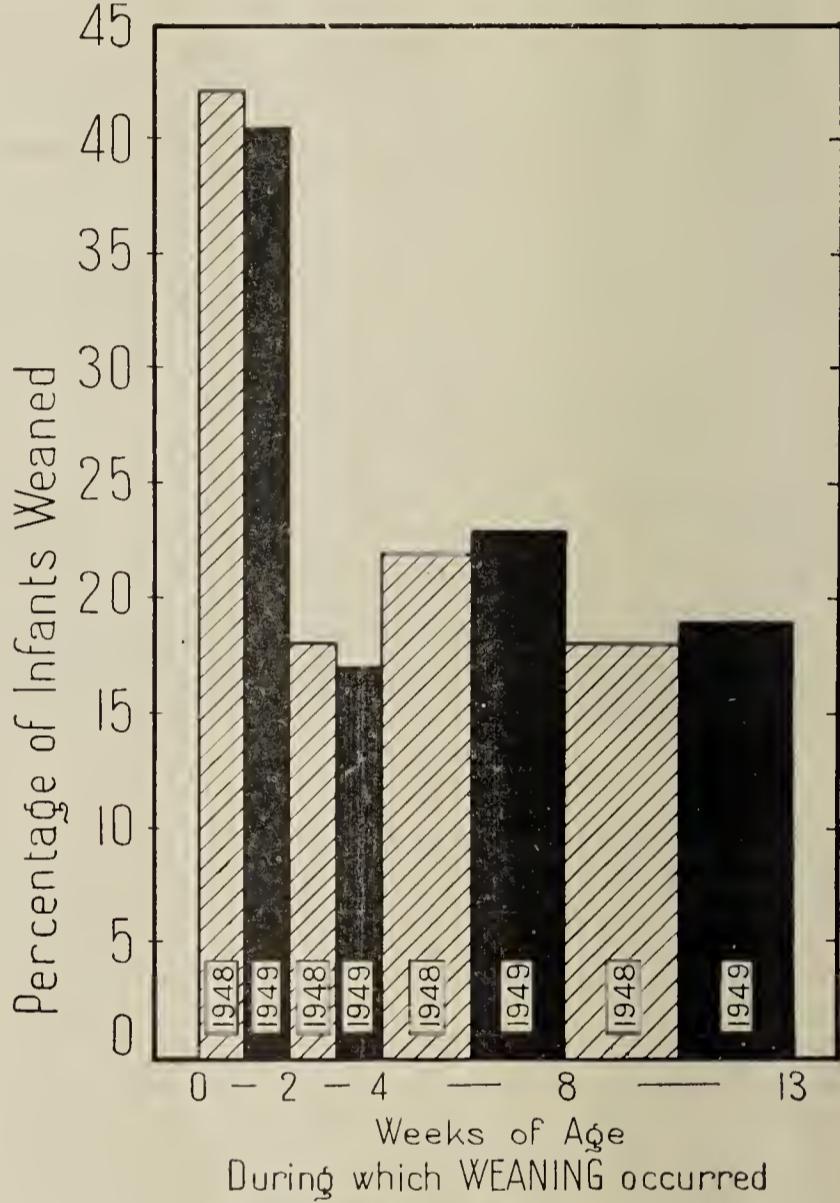
Analysis was also made of ages at which 3,203 infants being artificially fed at three months of age, were weaned.

- 0-2 weeks, 1,313 infants weaned or 41 per cent. (approximately)
- 2-4 weeks, 546 infants weaned or 17 per cent. (approximately).
- 4-8 weeks, 742 infants weaned or 23 per cent. (approximately).
- 8-13 weeks, 602 infants weaned or 19 per cent. (approximately).

This information is shown diagrammatically below:—

CHART 1.

Age of weaning of 3,203 infants being artificially fed at three months of age compared with 1948 figures:—



#### STAFF OF DEPARTMENT.

The Director has been awarded a World Health Organization Fellowship and leaves for America and England early in August. While she is away, Dr. Wilmot will act as Director.

Dr. A. E. Wilmot has been appointed as Assistant Director of Maternal, Infant and Pre-school Welfare, and has commenced duty. She has recently returned from England where she obtained her Diploma of Child Health and spent several months studying developments in Infant and Pre-school Welfare with special attention to nutrition.

Three members of the departmental staff have returned from abroad and their experience has been of great value to all.

Miss Thelma Baker, Vera Scantlebury Brown Scholar, had the opportunity of working as a Health Visitor in England and gained considerable clinical experience.

Miss Muntz, who received a British Council Bursary, made a special study of administration.

Miss Serpell also had experience in a residential nursery in England and saw something of Child-Care on the Continent.

#### PRE-SCHOOL SECTION.

##### PRE-SCHOOL CENTRES.

The increase in the number of Pre-school Centres, details of which are given below, show that the community is becoming more aware of the desirability of this service.

It is through these Centres that a more positive approach to health can be made by providing for the all-round development of the child.

##### NURSERY KINDERGARTENS.

Sixteen new Kindergartens were granted subsidy. This brought the total to 132 Centres receiving up to £9 per child per annum. Fifteen Centres not previously receiving full subsidy applied for an increase in order to provide additional services, while only two found it necessary to reduce the programme. At the present rate of subsidy, groups sponsoring the Centres are finding it increasingly difficult to maintain this free service without lowering their standards. These voluntary groups play an important part in pre-school work by their continued interest and support, and deserve encouragement.

Of the 132 subsidized units, 46 Centres are affiliated with the Free Kindergarten Union of Victoria, 14 with the Presbyterian Kindergarten Council, 16 with the Church of England Council, and 15 with the Catholic Education Office. The remaining 41 units are not affiliated with any of the above organizations. Four Centres are directly controlled by the Kew Municipal Council, and one by the Camberwell Municipal Council. Other Councils are showing their interest by making sites available, erecting buildings and contributing towards the maintenance of subsidized Centres.

In addition to providing a morning programme, afternoon play groups for fifteen children each session were conducted in 47 Kindergartens on two or three days each week.

##### PLAY CENTRES.

A further step in the expansion of the work was the payment of subsidy through the Maternal and Child Hygiene Branch to Pre-school Play Centres. From July 1st, 1949, nine Play Centres were subsidized up to £200 per Centre per annum.

A very special need is met in scattered areas and in some country towns through a Play Centre which provides a shorter programme for a smaller group of children. Centres have been established in the outer suburbs of Melbourne and in Ballarat, Shire of Berwick, Shire of Dandenong, Merbein, and Donald. The Shire Council has assumed financial responsibility for this last-named Centre which has recently been approved for subsidy.

##### CRÈCHES AND DAY NURSERIES.

The decision to subsidize Crèches and Day Nurseries at the rate of £25 per capita per annum was made in March, 1949, to be paid in retrospect from July 1st, 1948. Ten Crèches and three Day Nurseries are at present receiving this subsidy.

Regular inspections of these Centres were made during the year by Departmental Officers and advice given on both infant welfare and pre-school problems. The lectures for Matrons arranged by the Department had to be abandoned, owing to the Poliomyelitis outbreak, but another course is commencing soon. Difficulty is experienced in obtaining trained staff as many Crèches are housed in unsuitable buildings with lack of facilities for child care. However, during the year, much progress has been made. The City Crèche has been remodelled and in spite of the little space available, up-to-date facilities have been provided.

The City Council has also renovated and added to the North Melbourne Crèche, which will re-open shortly. A building permit has been granted for the re-building of the Fitzroy Crèche. Many smaller improvements have helped considerably the work at other Centres.

The number of children attending subsidized Pre-school Centres during 1949 is as follows:—

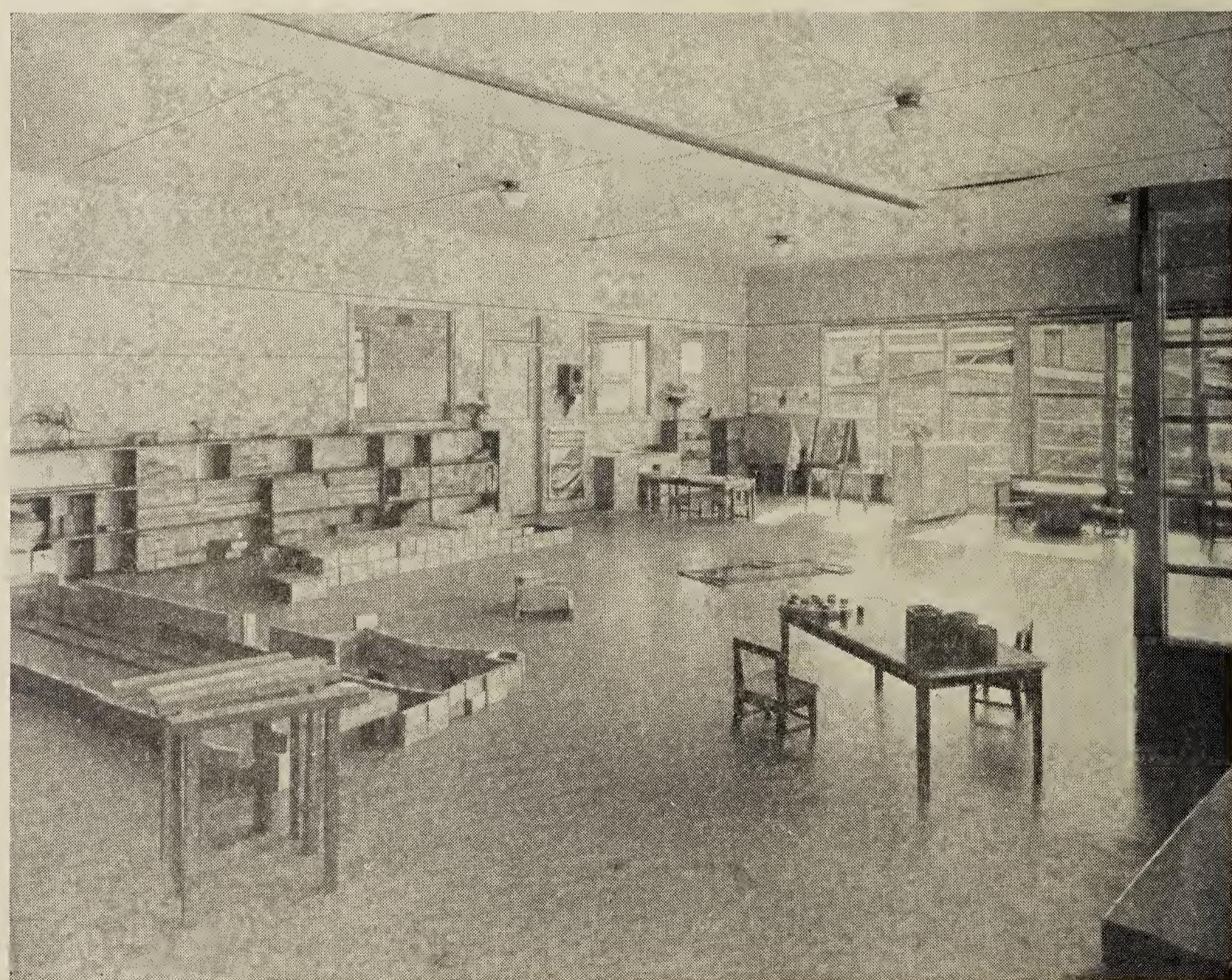
Kindergartens .. .. .. ..	5,467
Play Centres .. .. .. ..	279
Crèches .. .. .. ..	409
Day Nurseries .. .. .. ..	32
Play Groups attached to Kindergartens ..	1,320

##### BUILDINGS.

In spite of many difficulties three pre-school centres illustrating the modern trend in pre-school architecture have recently been completed—the Isobel Henderson Free Kindergarten, North Fitzroy; the Robert Cochrane Free Kindergarten, Auburn; the combined centre, Ada Mary a'Beckett Free Kindergarten and Vera Scantlebury Brown Infant Welfare Centre, Fishermen's Bend. This combined centre has been erected on a Housing Commission Estate as a memorial to two of the greatest pioneers in Pre-school and Infant Welfare work in this State.

Although local Committees sponsoring these Centres receive a Capital Grant of £1,000 each, the raising of the additional money required to finance them is proving a very heavy burden.

Plans have been approved and in some cases permits granted to other groups, who hope to commence building shortly. Many groups would like to plan Centres but see no possibility of raising sufficient money without greater outside financial assistance. The Department is constantly receiving inquiries from groups of parents, Municipal Councils, Progress Associations, and Churches regarding the establishment of Pre-school Centres.



Lady Huntingfield Pre-school Centre showing well-designed Play Rooms providing for Various Activities and Rest Periods.

## EMERGENCY HOUSING AREA CENTRES.

A Kindergarten, which provides a morning programme and a play group on two afternoons a week, functions in the Infant Welfare Centre building at Camp Pell. An area at the Infant Welfare Centre at Watsonia has been fenced and equipment procured for a Play Centre which will open when staff can be obtained.

The Committee sponsoring the Day Nursery and Kindergarten at Fawkner Park has been assisted by the Melbourne City Council and the Public Works Department in the extension of their service to the adjacent Emergency Housing Area. Here an attractive Play Centre has been established with an enrolment of fifteen children at each session.

## POLIOMYELITIS EPIDEMIC.

During this epidemic all Kindergartens were advised to close from the 8th September, 1949, to 21st March, 1950. As a result of the conference between the voluntary organizations and the Department the following procedure was put into practice in most Centres:—

- (a) Staff was retained so that close touch might be maintained with the children in their homes. Later, children were permitted to attend Kindergarten in small groups for short periods. This opportunity for closer contact between child, parent and teacher proved a valuable experience for every one.
- (b) All members of Kindergarten staffs were invited to a series of lectures and discussions held weekly over a period of two months. These took place at the South Melbourne Town Hall through the courtesy of the South Melbourne Council. The programme arranged by the Department covered various subjects of educational, cultural, medical and topical interests. Several documentary films were also included. The success of this experiment was evidenced by the large attendance which was maintained throughout the series. The syllabus was as follows:—

*10th October, 1949—*

Poliomyelitis—Dr. Brennan (Department of Health).

Library Services — Miss McKenzie (Librarian, South Melbourne).

*20th October, 1949—*

Posture—Dr. Jean Macnamara (Orthopaedic Consultant).

Youth Activities—Mr. Loftus (Prosecutor, Children's Court).

*27th October, 1949—*

Sex Education—Dr. Margaret Aikin (Pre-school Medical Officer, Department of Health).

Music for the Young Child—Mrs. Kelson (Lecturer K.T.C.).

*3rd November, 1949—*

Mental Health—Dr. Alan Stoller (Specialist, Psychological Medicine, Repatriation Department).

Some Aspects of Modern Art—Mr. Arnold Shore (Guide Lecturer, National Gallery).

*10th November, 1949—*

Highlights of South Melbourne—Mr. Alexander (Town Clerk).

Bookbinding and Repairs—Mrs. Campbell (Director of Library Services of the Victorian Division of the Australian Red Cross Society).

*17th November, 1949—*

The Absorption of New Australians into the Kindergartens—Mrs. T. Kelly (Dip. Anth., Sydney).

Work with the Older Kindergarten Child—Miss Clark (Lecturer in charge of Infant Teachers Training, Teachers Training College).

*24th November, 1949—*

Morning Health Inspection—Dr. Hilda Kincaid (Medical Officer for Child Welfare in the City of Melbourne).

Posture Display—Dr. Jean Macnamara (Orthopaedic Consultant).

Work with the Older Kindergarten Child—Miss Neyland (Infant Mistress, Errol-street State School).

*1st December, 1949—*

Mental Health—Dr. MacLean (Medical Officer, Psychiatric Clinic).

(c) The Crêches remained open as part of an essential service but no new enrolments were permitted

(d) A series of broadcasts, through the courtesy of 3BD was arranged by the Department for mothers of children who had previously attended Kindergarten and were now at home in comparative isolation. The sessions were of five minutes duration, four days a week. In planning the programme an effort was made to combine both the medical and the educational aspects of Pre-school care. In all, eighteen lecturers took part in the broadcasts, six of whom were medical officers, one an Infant Welfare Sister, and eleven Pre-school Educational Officers. Scripts of the talks were made available to the general public and requests for these were received from many interested people including parents, teachers and other people needing guidance in planning programmes for broadcast sessions. The substance of the scripts was also published in the "Listener In" and the new magazine "Mothercraft Today", issued by the Mothercraft Association.

## MEDICAL EXAMINATIONS.

All children attending subsidized Kindergartens, Crêches and Day Nurseries have a periodical medical examination and during 1949, 2,089 examinations were made. These kindergarten children possibly represent a more healthy group both physically and mentally than the very much larger group of Pre-school children who do not attend Centres. Concern is felt at the number of children exhibiting nervous manifestations which are often due to mismanagement or to domestic tension, possibly unrecognized. Valuable help can be given in these problems by the experienced kindergartner or supervisor who may prevent minor ills developing into major illnesses requiring Psychiatric Clinic treatment.

Other defects frequently noted are dental caries, poor posture and underweight. Many otherwise healthy Pre-school children show dental caries, often in an advanced state. Parents are frequently not aware of factors contributing to dental decay and the preventive measures that can be adopted, or of the value of dental attention for young children. Extended dental services for the pre-school child are an urgent necessity coupled with a wider education of the community to the value of sound healthy teeth and the necessity for preserving the first teeth. This requires both attention to diet and regular dental supervision.

Children with poor posture of various types are far too common. The services of a physiotherapist would be valuable in preventing these defects.

The fact that in this land of plenty we still see underweight children may seem strange. The cause of sub-average nutrition is by no means always dietetic in origin. Many mothers, however, remain ignorant of the essentials of a well-balanced diet and of the best way to budget in order to provide it for their family. Parent education by trained personnel along both medical and educational lines can do much to help.

PRE-SCHOOL MEDICAL EXAMINATIONS, 1949:			
Number of Kindergartens examined .. ..	55		
Number of Crêches and Day Nurseries examined .. ..	8		
Total number of groups examined .. ..	63		
Number of Kindergarten children examined .. ..	1,856		
Number of Crêche and Day Nursery children examined .. ..	233		
Total number of children examined .. ..	2,089		
Number examined for first time—			
Kindergarten children .. ..	1,415		
Crêche and Day Nursery children .. ..	233		
Total number of children .. ..	1,648		
Number re-examined—			
Kindergarten children .. ..	441		
Crêche and Day Nursery children .. ..	0		
Total number of children .. ..	441		

#### TRAINING.

More than ever it becomes apparent that the whole field of pre-school work is hampered by the lack of trained personnel. In order to help overcome the shortage of trained teachers the Government has granted a number of Scholarships for the full three-year course in Pre-school Child Development at the Kindergarten Training College, Kew. Five Scholarships were granted for 1948, ten for 1949, and for 1950 the number was further increased to twenty-two.

In addition to these, other Scholarships were offered for both the Pre-school Mothercraft and the Play Leaders courses. These two short courses are conducted by the Kindergarten Training College for the Department. Two Scholarships were granted for Mothercraft Nurses and ten for Play Leaders; an opportunity was made for an Infant Welfare Sister from the Department's staff to undertake a short Pre-school course. The Kindergarten Training College itself has received financial assistance from the Government in the form of a maintenance subsidy of £3,000 in 1949.

#### MOTHERCRAFT NURSES PRE-SCHOOL LECTURES.

Forty-nine lectures were given by Departmental Pre-school Officers to Mothercraft nurses in training at seven different schools. Forty-eight conducted visits were paid to Pre-school Centres during the course of lectures, each trainee visiting three centres.

#### MOTHERCRAFT TRAINING SCHOOLS AT WHICH PRE-SCHOOL LECTURES WERE GIVEN AND NUMBERS IN ATTENDANCE.

St. Gabriel's Babies Home .. ..	..	17
Methodist Babies' Home .. ..	..	16
Berry-street Babies' Home .. ..	..	14
Presbyterian Babies' Home .. ..	..	15
Bethany Babies' Home .. ..	..	7
Tweddle Baby Hospital .. ..	..	11
St. Joseph's Babies' Home .. ..	..	29
Total .. ..	..	109

#### STAFF.

With the additional subsidy for play centres, crêches and day nurseries, the demand on the Medical and Educational staff has greatly increased. If more staff were available a more satisfactory service could be provided.

Pre-school officers have been made available to attend meetings in both country districts and city areas and to confer with groups interested in the many aspects of Pre-school work. Officers attended, in all, more than 125 such meetings during the year. Supervisory visits are paid to all subsidized Centres and problems relating to the particular Centre were discussed with staff and committee. In addition, advisory visits were paid to at least 30 non-subsidized Centres. The guidance given by departmental officers has raised the standard of these Centres and enabled them to become eligible for subsidy.

Some of the lectures arranged for short Pre-school courses at the Kindergarten Training College were given by departmental officers.

Dr. Gilchrist, Pre-school Medical Officer, returned from England where she undertook special work in child guidance. In view of the experience she gained, she has asked to be transferred to the Child Guidance Psychiatric Clinic. Her duties still continue to be carried on by Dr. Brodrick and Dr. Aikin.

Miss Freda Goldenberg was granted leave of absence to travel overseas and Miss Dorothy Lucas resigned. Miss Eileen Seeley and Miss Elizabeth Jackson were appointed as Pre-school Educational Advisers. Miss E. E. Walker and Miss F. Emerson continue to carry out their duties as formerly.

#### EXPENDITURE.

TABLE 12.—GOVERNMENT EXPENDITURE ON MATERNAL, INFANT, AND PRE-SCHOOL WELFARE PAID THROUGH THE MATERNAL AND CHILD HYGIENE BRANCH OF THE DEPARTMENT OF HEALTH, VICTORIA, 1948-49.

Salaries—	£	£
Medical and Administrative .. ..	3,205	
Infant Welfare and Pre-school Staff .. ..	10,572	
Clerical Assistance .. ..	4,600	
	18,377	
Subsidies, &c.—		
To Municipalities, &c., towards Infant Welfare Centres, Home Help Schemes, &c. .. ..	39,441	
To Infant Welfare and Mothercraft Training Schools .. ..	7,000	
Towards Cost of maintaining Kindergartens and Pre-school Centres .. ..	46,314	
To Kindergarten Training College .. ..	3,000	
Towards Cost of maintaining Crêches and Day Nurseries .. ..	11,681	
Rail Passes to Infant Welfare Nurses .. ..	881	
Towards Cost of Free Distribution of Milk to Kindergartens, Crêches, &c. .. ..	1,500	
Expenses in connexion with Pre-school Scholarships .. ..	1,346	
Towards Capital Expenditure on Prenatal, Infant Welfare and Pre-school Centres .. ..	7,070	
	118,233	
Contingencies—		
Office Expenses .. ..	3,666	
Travelling Allowances .. ..	1,786	
Expenses Mobile Circuits .. ..	1,585	
	7,037	
	143,647	

## RECOMMENDATIONS.

The following recommendations are submitted in regard to extension of services for Maternal and Child Care :—

### 1. Home Helps.

Increased assistance for the establishment of Home Help Services by :—

- (a) Provision of hostels for those giving this service.
- (b) Subsidizing the payment of officers appointed by the Municipality to organize the service.
- (c) The appointment of an officer with organizing ability to supervise the service.

### 2. Infant Welfare, Mothercraft, and Pre-school Training.

Increased training facilities for Infant Welfare Sisters, Mothercraft Nurses, and Kindergarteners, as little expansion of existing services is possible unless more trained personnel is available.

Extension of the period of Infant Welfare training in Victoria. More emphasis should be placed on field work and care of the pre-school child ; this may necessitate accommodating Sisters for this part of their course.

Additional Mothercraft training schools, particularly in the large provincial cities.

More scholarships for the pre-school training of Infant Welfare Sisters, Mothercraft Nurses, Play Leaders, and Nursery Kindergarteners.

Additional financial assistance for the Kindergarten Training College is required to cope with these extra demands for training.

### 3. Interstate Reciprocity in Infant Welfare.

There should be reciprocity of registration of Infant Welfare Sisters between the States.

### 4. Financial Assistance for Child-Care Work.

(a) Increased maintenance subsidies for Infant Welfare Centres, Kindergartens, Crêches, Day Nurseries and Play Centres.

(b) Increased assistance for building for all types of Child Care Centres, because many groups interested in providing these services find the cost of establishment crippling.

### 5. Additional Staff.

The appointment of a physiotherapist to the Division is advocated for ante-natal and pre-school work.

Additional medical assistance is required to meet the increasing demand for regular pre-school medical examinations and the appointment of a further part-time or full-time medical officer is recommended.

## CONCLUSIONS.

Although standards of care for mothers, babies, and pre-school children have improved considerably since the inception of the Maternal and Child Hygiene Branch, it is necessary that still more progress should be made in this field.

There is an increasing awareness that we must not only attend to the physical needs of these mothers and children, but also to their emotional and social needs. All these factors are important and the extent to which any one of them is neglected will reflect adversely on the effectiveness of the work in other aspects of care.

Among these emotional and social needs the value of home and family experience to the child is becoming increasingly evident. The work of Home Helpers who are able to care for children in their own homes during the absence of the mother does much to help preserve the family unit in times of crisis. The provision of this assistance overcomes the necessity of breaking up the home for the period and so strengthens instead of weakening the family unit.

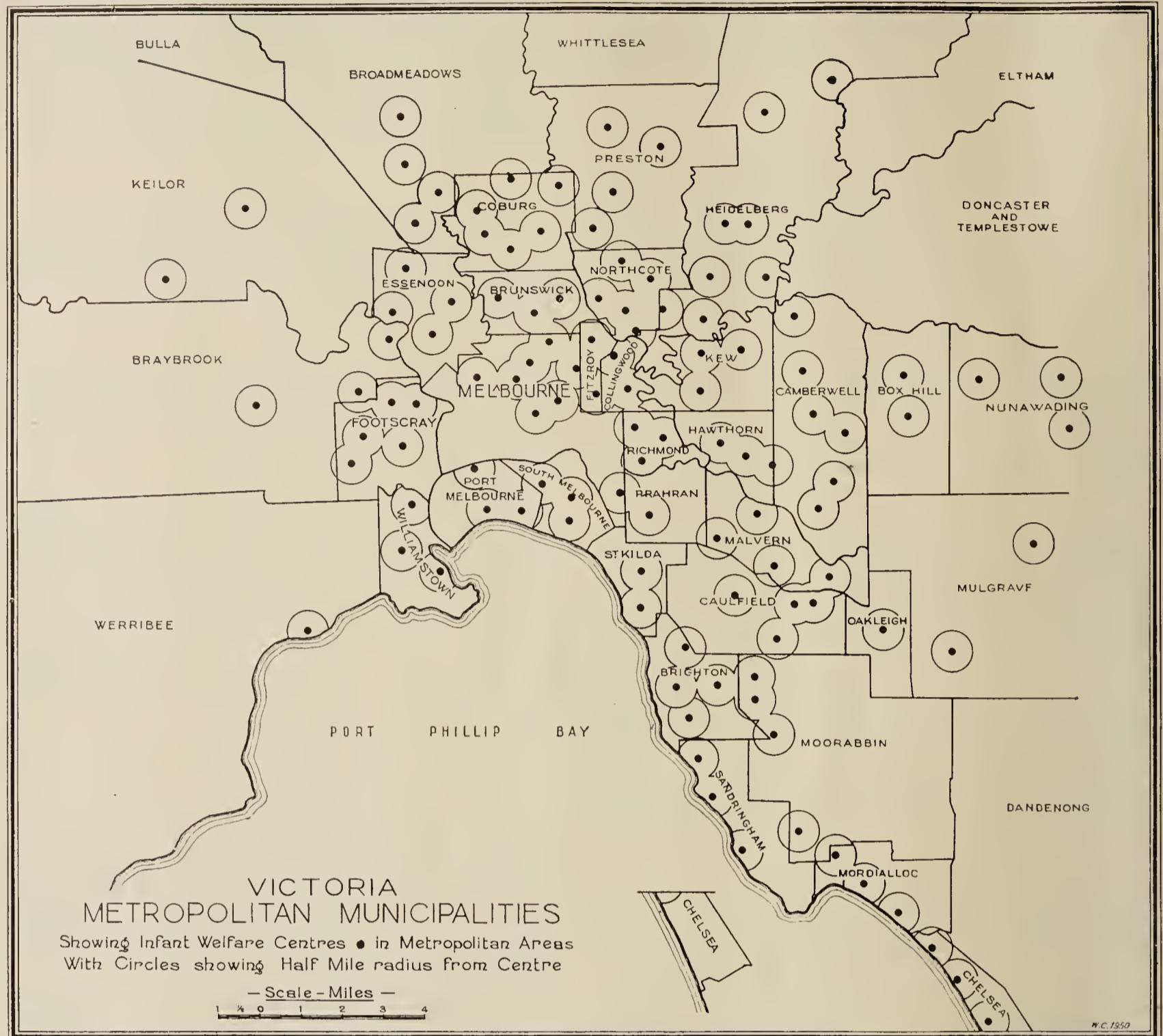
The increasing knowledge of allied fields of care by Infant Welfare Sisters and Mothercraft Nurses is doing much to overcome the artificial barrier created by those who tend to regard Infant Welfare Centres as services for babies under twelve months alone.

If the work of those engaged in all aspects of Maternal and Child Care is to maintain its present standard and to develop more appropriate ways of helping parents to care for their children's physical, social and emotional needs, then the additional costs of these services must be accepted by the community.

These additional costs are a result of increased maintenance costs and increasing commitments for centres in areas not already served, for new types of service, and for training institutions.

W. BARBARA MEREDITH, B.A., M.B., B.S.,  
Director of Maternal, Infant and Pre-school Welfare.

31st July, 1950.



**REPORT OF THE INDUSTRIAL HYGIENE DIVISION, JULY 1st, 1949, TO  
JUNE 30th, 1950.**

During this year the work carried out by this Division has continued to increase.

The following table shows the number of inspections and tests carried out in regard to various harmful agents during the year 1st January, 1949, to 31st December, 1949:—

Harmful Agents or Condition of Environment.	Inspections.	Tests.
Body Temperature	1	3
Dusts—		
Asbestos	13	15
Lead	141	165
Silica	73	49
Vegetable	10	..
Other Organic	18	..
Mixed Dusts	50	..
Other Inorganic	11	..
Gases—		
Carbon Monoxide	19	18
Cyanide Gas	15	..
Sulphuretted Hydrogen	4	..
Sulphur Dioxide	5	..
Oxides of Nitrogen	4	5
Fumes—		
Lead	37	2
Mercury	7	..
Zinc	2	..
Other	1	..
Noise	1	..
No Hazard	319	..
Undetermined	31	..
Vapours—		
Benzene	176	125
Benzene and other Aromatic	10	7
Aromatic Vapours	200	44
Miscellaneous Vapours	12	2
Mists, Spray, Fogs	209	36
Chromic Acid	15	2
Hydrochloric Acid	1	2
Radiations—		
Ultra Violet, &c.	398	..
X-rays	44	..
Radioactive paints	1	..
	1,828	473

In previous reports the statistics were shown for the period 1st July to the following 30th June, but it has been decided to show the statistics referred to in an annual report, for the calendar year just preceding the date of the report.

The statistics for the calendar year 1949 thus include those for the half year, 1st January to 30th June, 1949, which were included in the annual report for 1948-49; and those for the half year 1st July to 31st December, 1949.

On other than statistical matters, this report deals with matters up to 30th June, 1950.

The matters investigated included air contamination by siliceous dusts, asbestos dust, organic dust, lead, manganese toxic gases—such as carbon monoxide, oxides of nitrogen, toxic vapours; protection against radiations; temperature, humidity, air movement; agents harmful by skin contact.

The following table shows the numbers of inspections and tests carried out by the inspectorial staff.

#### LABORATORY TESTS.

The work of the Industrial Hygiene Laboratory included examination of samples secured by the inspectorial staff for analysis for dust counts, &c., in connexion with investigations of conditions at work, various tests done in connexion with the examination of individuals in various industries, and investigations in connexion with improvement in analytical and testing methods.

The following table shows the amount of work done:—

#### BLOOD EXAMINATIONS.

Stippled cell counts .. .. ..	604
Determination of ratio of large lymphocytes plus monocytes to small lymphocytes ..	226
Red cell counts .. .. ..	46
White cell counts .. .. ..	82
Determination of mean corpuscular Haemoglobin .. .. ..	45
Determination of percentage of Haemoglobin	82
Differential white cell counts .. ..	82
Determination of lead in urine .. ..	361
Determination of lead in blood .. ..	12
Determination of lead in air .. ..	172
Determination of lead in water .. ..	16
Determination of chromic acid in air .. ..	2
Determination of hydrochloric acid in air .. ..	2
Dust counts .. .. ..	450
Total .. .. ..	2,182

In addition to the above the Health Department Analysts at the State Laboratories carried out 59 analyses for the Industrial Hygiene Division, and the Defence Research Laboratories, Maribyrnong, thirteen spectrographic analyses of blood for lead.

#### OCCUPATIONAL DISEASES.

The following is a list of occupational diseases reported to the Department during the year, or found as the result of investigations by the Division:—

Lead poisoning .. .. ..	39
Silicosis .. .. ..	17
Silicosis with Tuberculosis .. .. ..	3
Asbestosis .. .. ..	..
Benzene poisoning .. .. ..	2 (fatal)
Carbon monoxide poisoning .. .. ..	2
Dermatitis (not including mild cases referred to under "Ramin" bark) .. .. ..	2
Poisoning due to dust of "Miva" mahogany ..	4
Infections—	
Abrasions, cuts, injuries .. .. ..	18
	87

In addition six cases of non-industrial lead poisoning were investigated, five of which were referred to in the previous report since they occurred prior to 30th June, 1949. The other case was that of a small child, the source of lead not being determined.

In addition to the cases of silicosis mentioned above, all of which were disabling, over 100 cases showing X-ray abnormality consistent with silicosis or silicosis associated with tuberculosis were revealed in the mass X-ray survey. In these latter instances it has not yet been possible to make detailed records of the industrial histories, nor to assess the degree of disability.

NOTE.—In the previous report from this Division for 1st July, 1948, to 30th June, 1949, it was inadvertently omitted to include fifteen cases of poisoning by carbon tetrachloride, one of which was fatal.

## LEAD TRADES.

## PERIODICAL MEDICAL EXAMINATIONS.

Under the Dangerous Trades, &c. (Medical Examination) Regulations, 1,800 reports of compulsory medical examinations were received. These were in regard to 706 different individuals.

The number of cases of industrial lead poisoning was 39. The majority of these cases were not of a very severe nature, and only two required to be admitted to hospital.

In addition there were six cases of non-industrial lead poisoning investigated, five of these were referred to in the previous annual report since they occurred prior to 30th June. Some firms have endeavoured to avoid complying with the regulations, and in one case an employee

has refused to be examined. Prosecutions have been recommended in two instances—in one case an employer and in one case an employee.

In a number of instances it has been appropriate to extend the time interval between examinations, and this has been done.

## ATMOSPHERIC LEAD DETERMINATIONS.

A considerable number of determinations of the concentration of lead in air has been done.

On the whole the values are not yet down to a satisfactory level. Considerable improvement has, however, been made in some works, and most are co-operating in attempting to make the conditions satisfactory.

The following table shows the atmospheric lead concentrations found in different occupations at a number of different accumulator factories:

ATMOSPHERIC LEAD CONCENTRATIONS IN ACCUMULATOR FACTORIES.  
OPERATIONS.

Range of Values per Cubic Metre of Air.	Casting Grids.		Casting Posts and Links.		Pasting.		Plate Cutting.		Assembling.		Group Burning.		Burning Posts and Links.		Mixing.		
	Number of Tests.	Percentage in Group.	Number of Tests.	Percentage in Group.	Number of Tests.	Percentage in Group.	Number of Tests.	Percentage in Group.	Number of Tests.	Percentage in Group.	Number of Tests.	Percentage in Group.	Number of Tests.	Percentage in Group.	Number of Tests.	Percentage in Group.	
0·0 - 0·15 ..	..	9	60	2	29	7	39	1	10	..	..	3	25	6	54	..	..
0·16 - 0·20 ..	..	2	13	1	14	2	11	..	..	2	22	1	8	2	18	3	22
0·21 - 0·30 ..	..	2	13	1	14	2	11	4	40	3	33	3	25	3	27	1	7
0·31 - 0·60 ..	..	1	7	2	29	4	22	3	30	3	33	4	33	..	..	5	36
0·61 - 0·90 ..	..	1	7	1	14	2	11	2	20	1	11	1	8	..	..	..	..
0·91 - 1·20 ..	..	..	..	..	..	1	5	..	..	..	..	..	..	..	..	..	..
1·21 - 2·0 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	14	
2·1 - 4·0 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	14	
4·1 - 6·0 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	7	
	15	..	7	..	18	..	10	..	9	..	12	..	11	..	14	..	

The permissible concentration according to the Victorian Regulations is 0·15 milligrams per cubic metre of air.

Some authorities consider that a figure of 0·20 milligrams per cubic metre is safe.

The following table shows the percentages of the values found for the various occupations shown, which exceed the values 0·15 and 0·20 milligrams per cubic metre, respectively:

Operation.	Percentage of Tests showing Concentrations Greater Than.	
	0·15 mg/m³.	0·20 mg/m³.
Casting grids ..	40	27
Casting posts and links ..	71	57
Pasting ..	61	50
Plate cutting ..	90	90
Assembling ..	100	78
Group burning ..	75	67
Burning posts and links ..	46	28
Mixing ..	100	78
Average ..	73	59
Average omitting mixing ..	69	57

Since mixing is an operation which involves a very short exposure out of the working day, the average percentage of tests has been shown both including and omitting this operation.

It will be seen that, even if the larger value be taken as safe, the conditions revealed are not yet satisfactory on the whole.

Intensive supervision and testing will be continued in an endeavour to have conditions rendered satisfactory.

The concentrations of lead in the air in certain operations in various works other than accumulator factories are shown in the following table:

Type of Factory and Operation.	Lead in Air mg/m³.	
	12th October, 1949.	31st November, 1949.
White lead manufacture— Mill* .. .. ..	2·50	3·5 Immediately after clearing clogged mill 1·0 Two hours later
Filling machine ..	0·25	0·18
General air, ground floor ..	0·25	0·53
General air, mezzanine floor ..	0·35	0·17
General air above mill room ..	0·28	0·16
Melting pot .. .. ..	0·29	0·51

\* No one is allowed in mill without a respirator. The mill is enclosed and the mill room under separate suction exhaust ventilation.

## Die Casting—

First casting machine ..	..	..	0·09
Second casting machine ..	..	..	0·20
Third casting machine ..	..	..	0·12

The occupations in which the cases of lead poisoning occurred are shown in the following table:—

#### LEAD POISONING.

Occupation.		Number of Cases.
Accumulator factories	.. ..	22
Manufacture of white lead	.. ..	11
Manufacture of lead arsenate	.. ..	3
Motor body works	.. ..	1
Plumbing	.. ..	1
Manufacture of gas lead burning	.. ..	1
Total	.. ..	39

#### BENZENE INVESTIGATIONS.

As a result of the work of the Division, the conditions in regard to benzene in the air in various occupations have improved considerably.

A considerable number of factories are known to have changed over to the use of solvents containing little or no benzene.

In places where it is still used, some improvements or alterations in methods, the introduction of suction-exhaust ventilation, and improved housekeeping have resulted in reducing the hazard.

In some cases firms which had given up the use of benzene in some particular process, are, owing to the effects of competition, reverting to its use. This fact emphasizes the necessity for introducing regulations for its control.

Draft legislation will be submitted to the Commission for approval. If this is passed by the authorities, then a further improvement in conditions can be effected.

#### REPORT ON THREE DEATHS FROM CHRONIC BENZENE POISONING.

Sometime about the middle of 1949, we were informed by a large public hospital that a patient of theirs was suffering from an aplastic anaemia due to chronic benzene poisoning. He had been exposed for many years to benzene vapour whilst working as a leather dresser. The dope used for this work was made up with pure benzene as a solvent. Later in 1949, this man died and it was recognized that his death was due to benzene poisoning.

In May, 1950, our inspectors were given information that two other people who had been employed for many years in the same factory had died within the last few years. It was realized by this Division that deaths could occur from chronic benzene poisoning without being diagnosed as such. Several factors could be responsible for this: The ignorance of the employee that he was exposed to benzene, his ignorance of the symptoms of chronic benzene poisoning, and his failure to realize that they might commence several years after he had ceased to be exposed to benzene. In view of this, it was decided to look further into these two cases to see if they could have been unrecognized cases of chronic benzene poisoning.

One of these people had died in a public hospital and it was possible for us to examine all the medical data relating to his illness and subsequent death in February, 1949. His death had occurred within a month or so of leaving the factory where benzene was used.

This man had died of aplastic anaemia; but the diagnosis of chronic benzene poisoning had not been made. This was largely because the medical people concerned had not been aware of his exposure to benzene vapour. In the light of this knowledge, the diagnosis of death from chronic benzene poisoning could be made fairly confidently, and on this point we received the support both of the physician, who was in charge of the case in the wards, and of the pathologist who performed the post-mortem examination.

We found that the other person had died at his home in November, 1942, some eighteen months after leaving the factory where benzene was used. During this period he had lost many weeks from work through illness, but he carried on until about one month before he died. His death was thought to be due to pernicious anaemia and this diagnosis was based on the report of a blood examination made about one month before he died. Actually the findings of the blood examination were more in favour of an aplastic anaemia than a pernicious anaemia, and the diagnosis of aplastic anaemia is favoured by the fact that his condition continued to deteriorate despite treatment for pernicious anaemia. The pathologist who originally reported on the blood examination agreed that, in light of the evidence of exposure to benzene, the most likely diagnosis was that of chronic benzene poisoning.

These two cases then illustrate the insidious nature of chronic benzene poisoning and show that it may produce death without being suspected as the cause.

Whilst it is not contended that the conditions which produced these cases in this factory are such as obtain at the present time, such occurrences emphasize the need for continuous supervision and control of the use of benzene.

They indicate, further, the possibility of the occurrence of cases of benzene poisoning in factories wherein conditions may now be quite satisfactory; but wherein there may be employees who were subjected, at some previous period, to excessive benzene exposure either in the same or in any other factory.

This applies also, of course, to work wherein there may be no exposure to benzene at all, at the time of the development of noticeable effects.

#### MISCELLANEOUS INVESTIGATIONS.

##### *Dermatogosis Due to Ramin Bark.*

In January, 1950, an investigation was made into complaints from members of the Waterside Workers' Federation who were unloading the ship *Burnside*.

The men complained of irritability of the skin about the forearms, face, neck, and waist; but apart from a little redness there was very little to be seen on the skin.

The men, themselves, were inclined to blame various insects that were to be found amongst the logs they were unloading. However, the source of the trouble was found to be in the bark of the logs themselves. This bark contained very fine needle-like structures, sharply pointed at both ends and hardly visible to the naked eye. When teased, the bark would liberate countless numbers of these little needles, and it was found, that if these needles lodged under clothing, they could produce considerable irritation. Apparently the friction of the clothes could rub them into the skin. After the part had been washed, no further trouble would occur. This concurred with the story the men gave, that the trouble would clear up quite soon after leaving work and reappear after starting work the next day. We considered it to be a disagreeable affliction, but not a health hazard. The logs were called Ramin logs, and the botanical name of the tree *Gonystylus*. They had been shipped from Borneo.

#### EFFECTS OF INHALATION OF DUST FROM MIVE MAHOGANY.

*Investigation into Poisoning from Mive Mahogany.*—Mive Mahogany is a Queensland timber that has been used in furniture manufacture. According to the history supplied by several people who worked with it, inhalation of the dust from this wood may produce a very severe and prolonged inflammation of the respiratory mucosa generally. This was confirmed by our observation of an officer of the C.S.I.R.O., who was badly affected after cutting some of the wood with a small circular saw.

The Division of Forest Products, C.S.I.R.O., has undertaken the search for the active principle in the wood; but so far they have not been successful.

As far as we know, this wood is not being used in industry in Victoria at present.

#### LEGISLATION.

An amended schedule to the *Harmful Gases, &c., Regulations* has been gazetted. The schedule now refers to 71 substances and includes *dusts containing free silica*.

##### *X-ray Fluorescence in Shoe Shops.*

##### *Benzene.*

Draft Regulations in respect to these matters have been prepared for submission to the Commission.

#### STAFF.

The Division still has difficulty in securing and maintaining an adequate staff; although the establishment provides for three (3) scientific officers (chemists), it has not been able to secure more than two (2) at any one time. Mr. Thomas is at present on leave while doing a medical course, so there is only one (1) chemist available, and the whole of his time has to be given to routine work.

It is hoped to add a filing clerk to the staff in the near future.

The Division has been without the services of a typist for several months.

#### LECTURES.

A series of six (6) lectures on Industrial Hygiene has been given as part of a course on Industrial Nursing held by the Royal Victorian College of Nursing.

Two (2) lectures on Industrial Hygiene were given to a class for Tutor Sisters in a course held by the College of Nursing, Australia.

One (1) lecture on Industrial Chest Diseases was given in the Post-Graduate Course of lectures arranged by the Melbourne Permanent Post-Graduate Committee.

*Committees.*—Meetings of the following committees have been attended :—

Committee on Industrial Hygiene of the National Health and Medical Research Council.

Poisons' Schedule Advisory Panel of the Pharmacy Board.

Australian Standards Association Committee on Protective Clothing and Eye Protection.

*International Conference on Pneumoniosis.*—The International Conference on Pneumoniosis of the International Labour Office, Sydney, February–March, 1950, was attended.

Many very valuable papers were read and much useful discussion took place. One of the most valuable features of such a conference was the opportunity it afforded for personal contact and discussion with authorities on this subject.

The full report of the conference will be available in due course.

#### RESEARCH.

*Publications.*—(1) A paper on the effects of lead on lymphoid cells has been accepted for publication by the *Medical Journal of Australia*.

(2) Another paper, in two parts, on the effects of sodium citrate in lead poisoning and in lead absorption, has been submitted to the same journal.

*Benzene in Air.*—An improved method for the determination of benzene in air by the photoelectric absorptionmeter has been worked out.

#### BENZENE.

*Effects of Benzene on Blood.*—A considerable amount of work has been done on the effects of benzene on the blood cells, from the point of view of early diagnosis.

In confirmation of the work of Greenburg, Mayers, Goldwater, and Smith (J.I.H.T. 21 (1939) p. 385), it has been found that very useful information as to the early effects of benzene is given by determination of the mean corpuscular haemoglobin, white cell count, and a differential white cell count.

D. O. SHIELS,  
D.Sc., Ph.D., F.R.I.C., F.A.C.I., M.B., B.S.  
Medical Officer for Industrial Hygiene.

## REPORT OF THE ENGINEERING DIVISION, 1949-50.

The staff has increased to 14, with the appointment near the end of the period covered of one engineer, who is at present only on a temporary basis. Two additional building inspectors are being appointed shortly, which will complete the building staff at present required. There is still a vacancy for a Building Surveyor, which will not be filled until removal of reductions on the erection of public buildings results in increase in the number of plans and specifications to be examined.

### SEWERAGE AND SEWERAGE DISPOSAL.

Preliminary reports and plans for two proposed new sewerage systems were examined during the period covered by the appended table, and a larger number, including both preliminary and final plans, have been dealt with in the first half of the present calendar year. The plans of additions included in the table are all small extensions to the metropolitan sewerage systems.

There is still little work being done in the construction of provincial sewerage systems. Fair progress was being made at Moe, to deal with the new as well as the old town, but has greatly slowed down due to abandonment of the contract and reversion to day labour, and some progress in house connections is being made at Maffra. Consequent on the growth of the township of Traralgon since sewer construction was stopped in 1942, it will be necessary to duplicate the treatment works, which were nearly finished in 1942, before house connection work can be carried very far.

The quarterly inspection of sewerage treatment works had to be discontinued for portion of the year owing to shortage of engineering staff, but has been recommenced, and it is hoped to be able to carry on henceforward without interruptions. Stream pollution due to overflow from sewers overloaded by stormwater infiltration is still in evidence at a few towns, but alterations are contemplated with a view to overcoming this.

### INSTITUTIONAL AND DOMESTIC SEPTIC TANK SYSTEMS.

There has been a decrease in the number of plans of institutional and domestic septic tank systems examined, from 68 for the year 1948-49 to 49 for the calendar year 1949, but there has been no falling off in the number of requests for advice and information on the design of such systems, a number relating to group systems for housing areas to serve sawmills and the like in country districts. Again many of the inquiries have related to proposed domestic septic tanks to serve dwellings in the outer suburban areas, where the shortage of labour and materials has resulted in a lag in the extension of sewers.

### STREAM POLLUTION AND DISPOSAL OF TRADE WASTE.

Field work has again been very limited owing to staff shortage. No active work on the abatement of pollution of the Yarrowee by trade waste waters from Ballarat has yet been done, but it is understood that agreement between the firms concerned and the Ballarat Sewerage Authority, on the reception of the waste waters into the sewerage system, is likely to be reached very soon.

There have been many cases where firms proposing to establish new trades in the country under the Government scheme for Decentralization and Development have been referred to the Chief Engineer to ascertain the legal restrictions on the disposal of polluted water at the proposed site, and the practicable methods of purifying the waste liquids to the extent necessary to enable them to be discharged into streams or bodies of water. This is often the factor which decides whether or not it is practicable to establish the proposed trade at the suggested site, without detriment to a stream or creation of nuisance.

### HOSPITALS AND BENEVOLENT INSTITUTIONS.

The principle of building separate Infectious Diseases Blocks at provincial hospitals has been abandoned for that of providing wings for infectious cases in General Hospital buildings, so that the wards can be used for other cases at periods when there are few or no infectious cases, and the item "Infectious Diseases Hospitals" has therefore been deleted from the table of plans examined. Benevolent institutions have also been listed separately.

The number of plans of new public hospitals has increased markedly and that of plans of additions slightly over those for 1948-49, the total of new and altered buildings having increased from 73 to 91.

### ABATTOIRS AND OFFENSIVE TRADES.

The number of plans for buildings of these classes has shown a decrease from 20 for 1948-49 to 8 for the calendar year 1949, but an increase is expected next year, following the lifting of the Commission's ban on erection of or addition to such buildings in the metropolis, except in the area recommended for such trades by the Town Planning Commission.

New municipal abattoirs are in the course of erection at Castlemaine, but no start has yet been made on the erection of proposed municipal abattoirs in any other provincial district.

### PUBLIC BUILDINGS.

In spite of building restrictions, there has been an increase in the number of plans examined for erection and alteration of public buildings from 396 in 1948-49 to 457 for the calendar year 1949, though most of the increase is in the items Hospitals and Benevolent and other Institutions.

The appointment of additional building inspectors has enabled inspections to be extended, for the first time in the Department's history, to cover existing buildings as well as newly-erected or altered ones, and has brought under notice many buildings which were in a neglected condition, some of them so much so that it was necessary for the Commission to order them to be closed, as being unsafe.

The common causes of serious deterioration are absence of adequate spouting, downpipes and drains, resulting in damage to the foundations, and white ant attack.

Night inspections have been extended to cinematograph and other halls in the country in a systematic manner, and have revealed wide-spread and gross neglect of the Regulations affecting public safety, and legal proceedings have been instituted in many cases.

### REGULATIONS AND LEGISLATION.

After some further delay, the Public Building Regulations as amended are being reviewed by the Crown Solicitor, and are expected to be gazetted very soon. The Pre-School Regulations have been almost completed in collaboration with the Maternal and Child Hygiene Branch.

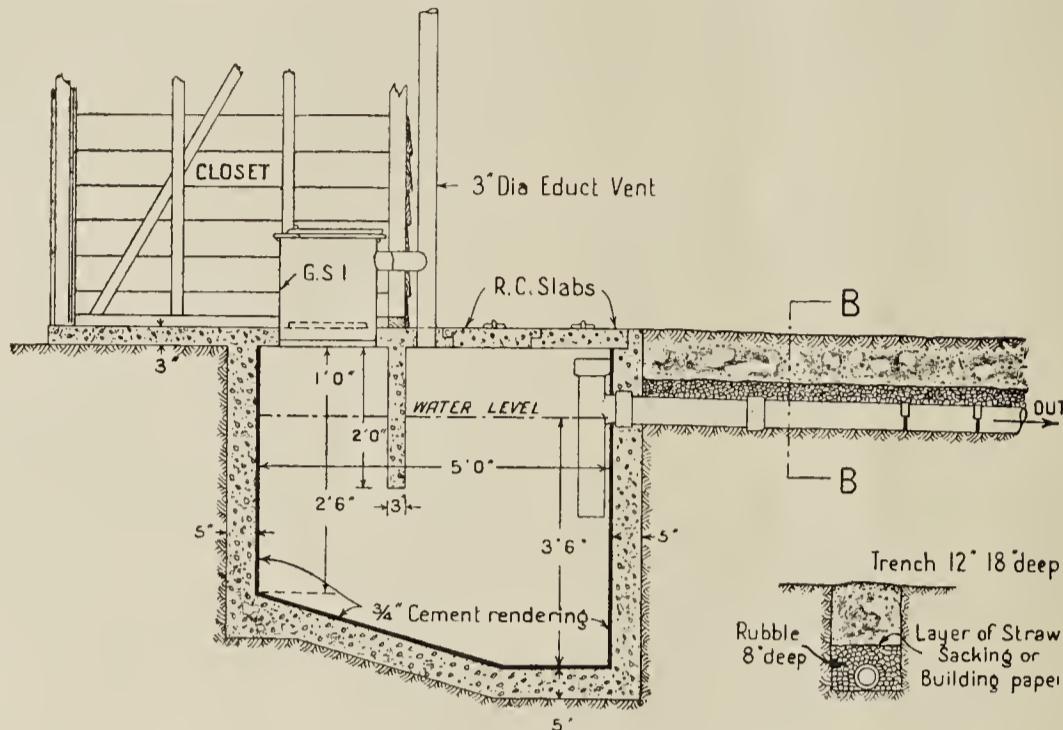
The revised Fire Prevention Regulations were gazetted in October, 1949, and the General Sanitary Regulations, with the drafting of which the Chief Engineer was largely concerned, were gazetted in June, 1950.

### DIAGRAMS AND PAMPHLETS.

Supplies of the septic tank folder, 1946 issue, are almost exhausted, and a slightly amended version is now in the hands of the Government Printer. The "septic closet" design is proving useful for use at premises which cannot be served by normal septic tank systems owing to the absence of adequate water supply, or of facilities for disposing of a large volume of effluent. This design has been republished in the "Australian Municipal Journal," and also in South Australia, New Zealand and South Africa.

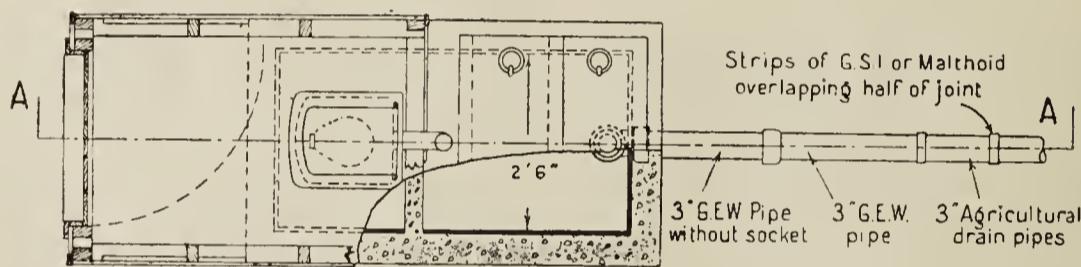
## DEPARTMENT OF HEALTH

## VICTORIA

DIAGRAM OF SEPTIC CLOSET

SECTION A-A

SECTION B-B



PLAN

## BOARDS AND COMMITTEES.

The Chief Engineer is a member of the Municipal Building Surveyors Board, and *ex officio* a member of the Building Regulations Committee and a Referee under the Local Government Act. He is also acting as a member of a Committee appointed by the Standards Association of Australia to draw up standards for the disposal of household sullage water and for septic tank systems. He attended 4 meetings of the Municipal Building Surveyors Board, 25 meetings of the Building Regulations Committee, 11 of the Referees and 4 of the Standards Association Committee during 1949.

Mr. C. E. B. Waldron, M.Sc., Senior Building Surveyor, is Chairman of the Plumbers and Gasfitters Board, and his report is appended.

Mr. C. Cross, who retired from the position of Electrical Inspector in January, 1950, has been retained as the Commission's representative on the Cinematograph Operators Board until the expiry of his period of appointment as such.

## CONFERENCE OF SEWERAGE ENGINEERS AND OPERATORS.

The Twelfth Annual Conference was held in the Boardroom of the Melbourne and Metropolitan Board of Works on the morning of Friday, 30th September, when technical subjects were discussed, the attendance being up to the usual figure. It was followed by a visit to the Board's treatment plant at Braeside, which was described and examined. These conferences retain their popularity, particularly with the operators, many of whom have no other opportunity of discussing their problems with their fellows.

The formation, when some of the proposed new systems have been completed, of a body on the lines of the English Institute of Sewerage Purification, to replace this Annual Conference arranged by the Department of Health, is under construction.

E. A. HEPBURN, B.C.E., A.M.I.C.E.  
Chief Engineer.

ENGINEERING BRANCH.  
PLANS EXAMINED.

Class of Building.	New Buildings.	Alteration or Addition.	Total.
Theatres .. ..	..	14	14
Picture Theatres .. ..	5	29	34
Dance Halls .. ..	2	9	11
Public Halls, Churches, Sunday Schools .. ..	44	88	132
Day Schools .. ..	15	66	81
Pre-School and Infant Welfare Centres .. ..	31	5	36
Public Hospitals .. ..	16	75	91
Benevolent, Babics' and Other Institutions .. ..	9	22	31
Other Public Buildings .. ..	9	23	32
Total Public Buildings .. ..	131	326	457
Private Hospitals .. ..	18	55	73
Offensive Trades Premises .. ..	3	14	17
Total Buildings .. ..	152	395	547
Public Sewerage Systems .. ..	2	28	30
Septic Tank Systems .. ..	49	..	49
Total Plans Examined .. ..	203	423	626

## INSPECTIONS.

## Day Inspections.

Building Inspections .. .	..	3,140
Tests of Mechanical Ventilation Systems ..	..	16
Offensive Trade Premises .. .	..	23
Septic Tank Systems .. .	..	37
Factory Drainage Disposal Systems ..	..	5
Public Sewerage Systems .. .	..	45

## Night Inspections.

Enforcement of Regulations .. .	..	..	1,315
Collection of Air Samples .. .	..	..	7
Total Inspections .. .	..	..	4,588

## SPECIAL TECHNICAL INSPECTIONS.

By J. F. McDonnell.—1st January, 1949, to 31st December, 1949.

Date.	District.	Matter Investigated.	Outcome.
5.4.49	Greenvale ..	Sanatorium Sewage Treatment Works <i>re</i> offensive conditions	Complaints considered justified and details of necessary plant maintenance given to T.B. Branch
18.5.49	Geelong ..	Federal Mills Waste Treatment Plant effect of discharge on bay	Advice forwarded to Thos. Borthwick, Portland, where similar discharge to ocean proposed
6 & 15.6.49	Mirboo North ..	Proposed water supply .. ..	Main supply satisfactory. Stand-by supply to be chlorinated
25.7.49	Rushworth ..	D.P. Camp pit latrines <i>re</i> offensive conditions	Recommendation to provide adequate ventilation
25.7.49	Rushworth ..	Proposed nightsoil dumping into old mine shaft	Proposal approved
10.8.49	Archie's Creek and Wonthaggi	Proposed discharge of milk waste to Powlett River	Proposal not approved
18.10.49	Ararat ..	Mental Hospital sewage effluent <i>re</i> possible pollution of Ararat water supply	Proposal by Shire Engineer to protect water supply considered satisfactory
11.11.49	Frankston ..	Sullage drainage from Housing Commission Estate	Experiment to alleviate conditions proposed by Engineer

## REPORT OF PLUMBERS AND GASFITTERS BOARD FOR 1949-50.

The Board held four meetings.

The Board now has an inspector and as a consequence the number of persons applying for registration has shown a considerable increase over that of recent years.

The Department of Health pays half the salary of the Inspector and the Board the other half and his travelling expenses. This outgoing at approximately £400 per year will completely take up the existing assets of the Board in about two years, and in the absence of the long awaited amendment to the Health Act which would permit the Board to increase annual fees for renewal of registrations from 2s. 6d. to 10s., it will then be necessary to request the Department of Health to assume full responsibility for the payment of the inspector. The Board considers it advantageous that the inspector be a permanent public servant.

Other amendments to the Health Act necessary to strengthen the powers of the Board in taking legal action in respect to breaches of the existing regulations and for faulty workmanship by employer or employee, are also awaited.

No examinations were conducted by the Board during this year. It is recorded that 70 per cent. of those required by the Board to submit themselves for examination, show very little trade skill, which proves its wisdom in requiring doubtful cases to be examined.

The number of names in the register at 30th June, 1950, was 3,459. Three hundred and ninety-three applications for registration or reclassification were dealt with and 289 names were added to the list.

Income was £597 3s. and expenditure £538 10s. 11d.

The Registrar, Mr. F. Vine, has received clerical assistance over the very busy period of the year.

Mr. H. J. Cobain resigned as inspector in November, 1949 to take up a position with the Melbourne and Metropolitan Board of Works.

Mr. G. J. Dean was appointed to the vacancy and commenced duty on April 3rd, 1950.

The Board is appreciative of the services rendered by both gentlemen.

Twelve days' time has been spent by me in the several duties of the Board.

C. E. B. WALDRON, M.Sc.,  
Chairman.

## REPORT OF VENEREAL DISEASES DIVISION FOR YEAR ENDING 30th JUNE, 1950.

### 1. STATISTICS AND COMMENT THEREON.

(The Statistics relating to State Wide incidence are for Calendar years and, for the sake of uniformity, Clinic figures are given for the same period.)

The table below shows the reported incidence of gonorrhoea and acquired syphilis in Victoria for the year 1949 compared with the previous year. Soft sore and congenital syphilis are infrequent and are not considered.

	Gonorrhoea.		Syphilis.	
	Male.	Female.	Male.	Female.
1948 ..	1,533	199	270	119
1949 ..	966	188	272	89
Remarks	Fall of 567	Fall of 11	Rise of 2	Fall of 30

It is particularly difficult at the present time to come to a satisfactory conclusion based on the above figures. The ever extending use of penicillin and the sulpha drugs for treating non-venereal conditions must undoubtedly have some modifying effect on coincident gonorrhoea. Some infections are undoubtedly aborted or cured. Others are rendered so mild that the patient has no reason to seek medical advice. It is impossible at present to forecast whether this state of affairs will lead to a real reduction of the gonorrhoea incidence or produce "drug fast" strains of gonococci which will tend to cause sub-acute and chronic forms of the disease. To a less extent penicillin can be expected to modify the clinical picture in syphilis. The position requires the utmost vigilance on the part of medical practitioners. A note of warning on this matter has already been sounded in a previous issue of the Health Bulletin.

A detailed table of Reported Venereal Disease for 1949 is given at the end of this report. Study of it reveals that by far the greater number of infections occur in the Metropolitan Area and that nearly half the cases are treated at the Government Clinic.

### 2. GOVERNMENT CLINIC.

#### (a) MALE SECTION.

During 1949, 2,110 patients were accepted for investigation and/or treatment. These were classified as follows :—

Gonorrhoea .. .. ..	472
Non-Gonorrhoeal Urethritis .. .. ..	595
<b>Syphilis—</b>	
Primary .. .. ..	44
Secondary .. .. ..	5
Tertiary and Latent .. .. ..	7
Syphilis with other Venereal Conditions ..	59
	115
Soft Sore .. .. ..	5
Passport Visa Examinations .. .. ..	29
Non-Venereal Conditions and "Nothing Abnormal Detected" .. .. ..	894
	2,110

In addition to oral and local therapy 7,008 injections were given, intravenous arsenic, bismuth (as Rubyl) and penicillin intramuscularly making up the bulk of the total.

It will be observed that Non-Gonorrhoeal Urethritis is more prevalent than Gonorrhoea. The majority of cases coming under this heading are due to an as yet undiscovered cause. Although this condition is not legally a venereal disease, from the medical viewpoint it is. Its

frequency and persistence cause much social embarrassment. To enable research work on this important matter to be undertaken, application was made for a microscope capable of revealing more detail than that required for routine work and also a set of "Phase Contrast" accessories to facilitate the examination of unstained smears. This request received Ministerial approval and, although all the apparatus authorised has not yet arrived in Australia, some promising preliminary work has been done.

During the year the addition of another full time medical officer to the staff also received Ministerial sanction. It is the presence of this additional medical officer that has rendered the undertaking of research work possible.

In March, 1950, the question of providing better facilities for treating Venereal Disease in the growing seaport of Geelong was investigated. A scheme was evolved whereby the Department of Health would provide a salaried part time medical officer, and all the equipment and treatment agents needed. The Kitchener Memorial Hospital would provide quarters, furniture and certain other services. This scheme received Ministerial approval and the Clinic became available to patients on 26th June, 1950. It will be administered entirely as a branch of the Government Clinic, Melbourne.

Attendances at the Prophylactic Centre average 631 per month. The highest figure reached was 770 in December, 1949. A considerable number of the men seeking prophylaxis are "regulars." It is not possible to say on what proportion of cases prophylaxis prevents infection but it can be definitely stated that men who get prompt prophylaxis at the Clinic Centre very rarely require treatment for disease. In the few cases requiring treatment after prophylaxis, careful inquiry usually reveals an exposure to infection within the incubation period of the disease in question, in which prophylaxis was omitted or sought too late.

During the year ended 30th June, 1950, the staff of the male clinic has been strengthened by the transfer to it of one member of the Prophylactic Centre staff and by the advent of a male State Registered Nurse appointed to fill a vacancy caused by the previous holder leaving the service. Added to the existing high grade personnel this has produced a team of keen and efficient workers and rendered possible the introduction of improvements in technique. Arrangements are in hand to put these into operation and they will be commenced as the necessary apparatus becomes available.

The Prophylactic Centre was fortunate in securing the services of a man with long experience of venereal prophylaxis, gained in a metropolitan hospital, to fill the vacancy caused by the transfer of a member to the Clinic staff.

#### (b) FEMALE SECTION.

During 1949, 340 patients reported to the Clinic. After investigation had been completed, these were classified as follows :—

Gonorrhoea .. .. ..	38
Gonorrhoea and Syphilis .. .. ..	5
Syphilis .. .. ..	11
Cervicitis .. .. ..	17
Blood Examinations for Passport Visas ..	87
Other conditions and Patients found free from Disease .. .. ..	182
	340

(The treatment of female patients is much more time consuming than in males. It is estimated that dealing with the above listed cases took as many "staff hours" as dealing with 750 males.)

### 3. OTHER INSTITUTIONS.

A Medical Officer from the Division has paid regular weekly visits to Fairhaven to treat inmates for various venereal conditions.

In the earlier part of the year 1949-50 regular visits were also made to the Children's Welfare Department at Royal Park, mainly for the purpose of treating congenitally syphilitic children. The number of children under treatment has steadily dwindled and for the last month of the year visits have been discontinued as none require active treatment at present.

During April, May and June, a Sister has attended Pentridge Gaol once weekly to assist in treating venereal inmates. These visits were rendered necessary during the temporary absence of a suitably qualified nurse on the prison staff.

### 4. GENERAL.

During March, April, May and June a Medical Officer from the Division gave lectures on Venereal Diseases to police-women and male personnel attending the Detective Training School.

During 1949, Wassermann tests were performed on 87 females and 29 male persons in connexion with their application for passport visas. No positive reactions were revealed. Although this series of cases is very small it serves to indicate that the incidence of undetected syphilis is much lower in Victoria than in some areas overseas.

C. G. B. COLQUHOUN,  
Medical Officer in Charge,

Venereal Diseases Division.

5.7.50.

REPORTED VENEREAL DISEASES, VICTORIA, 1949.

		Gonorrhoea,	Acquired Syphilis,	Soft Sore,	Congenital Syphilis,	Gonorrhoea and Syphilis,	Syphilis and Soft Sore,	Gonorrhoea, Syphilis and Soft Sore.	Total Notifications,	Total Infections,
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Females.	Totals.
<b>First Quarter—</b>										
Metropolitan Area	..	..	..	..	..	..	..	..	..	..
Clinic	..	..	..	..	..	..	..	..	..	..
Rest of State	..	..	..	..	..	..	..	..	..	..
Whole State	..	..	..	..	..	..	..	..	..	..
		165	41	32	12	..	..	1	..	265
		143	9	32	5	4	..	..	14	248
		..	..	..	..	..	..	..	..	..
		308	50	65	17	4	..	..	..	513
<b>Second Quarter—</b>										
Metropolitan Area	..	..	..	..	..	..	..	..	..	..
Clinic	..	..	..	..	..	..	..	..	..	..
Rest of State	..	..	..	..	..	..	..	..	..	..
Whole State	..	..	..	..	..	..	..	..	..	..
		117	33	75	28	..	..	..	..	200
		91	13	20	2	5	..	..	17	132
		..	..	..	..	..	..	..	..	..
		208	46	95	30	5	..	..	..	332
<b>Third Quarter—</b>										
Metropolitan Area	..	..	..	..	..	..	..	..	..	..
Clinic	..	..	..	..	..	..	..	..	..	..
Rest of State	..	..	..	..	..	..	..	..	..	..
Whole State	..	..	..	..	..	..	..	..	..	..
		109	39	13	..	..	..	..	..	..
		107	11	19	1	10	..	..	..	..
		..	1	2	1	..	..	..	..	..
		229	51	60	15	10	..	..	..	..
<b>Fourth Quarter—</b>										
Metropolitan Area	..	..	..	..	..	..	..	..	..	..
Clinic	..	..	..	..	..	..	..	..	..	..
Rest of State	..	..	..	..	..	..	..	..	..	..
Whole State	..	..	..	..	..	..	..	..	..	..
		104	34	28	23	..	..	..	..	..
		109	6	22	4	..	..	..	..	..
		..	1	2	..	..	..	..	..	..
		221	41	52	27	22	..	..	..	..
<b>Whole Year—</b>										
Metropolitan Area	..	..	..	..	..	..	..	..	..	..
Clinic	..	..	..	..	..	..	..	..	..	..
Rest of State	..	..	..	..	..	..	..	..	..	..
Whole State	..	..	..	..	..	..	..	..	..	..
		495	147	175	76	..	..	..	..	..
		450	39	93	12	41	..	..	..	..
		..	21	2	4	1	..	..	..	..
		966	188	272	89	41	..	..	..	..

# REPORT OF THE GOVERNMENT CHEMIST FOR THE YEAR ENDING 30th JUNE, 1950.

## STAFF.

The staff was increased during the year by the appointment of an additional qualified chemist in connexion with the analysis of foods, and of a partly trained assistant to the medico-legal section.

## GENERAL.

The number and type of samples submitted during the past twelve months are shown in the accompanying table, which also indicates the number of samples found to be adulterated; in most cases the adulteration was in the form of non-compliance with a prescribed standard. Samples are submitted mainly by departmental and municipal inspectors, although a considerable number of milks are analysed for the Department of Agriculture.

The total number of samples analysed shows an increase over the previous year, while the proportion of adulterated samples (4 per cent.) is slightly lower. The bulk of the adulterated samples was meat products with excess preservative and milks below standard. While the milk samples submitted do not represent an adequate cross section of the milk supply of the State, they do represent fairly accurately the general run of milk in certain large suburbs and country municipalities. It is of interest that the percentage not complying with the prescribed standard is only 1·9.

## EFFLUENTS.

The measure of the efficiency of country sewage works is based largely on analyses of effluents taken at various stages of the process and at the point of discharge. The number of such effluent samples submitted by the Chief Engineer is ten times greater than that submitted last year.

## INDUSTRIAL HYGIENE.

A part of the chemical work required by the Medical Officer of Industrial Hygiene is carried out in these laboratories, the samples submitted including paints for lead, solvents for toxic constituents and dusts and rocks for silica.

## MISCELLANEOUS SAMPLES.

A product, sold as a meat softener made from paw-paw, contained a proteolytic enzyme capable of softening meat fibres. It was free from alkaline substances found in some preparations used for this purpose.

A comprehensive analysis was made of a number of samples of canned fresh peas and canned processed peas. It was found possible to prove whether the peas were fresh or were dried peas which had been soaked or otherwise processed prior to canning. The latter are a wholesome product, but should be so labelled as to indicate their true nature and to prevent any suggestion that they are garden, green or fresh peas.

The chocolate coating on certain types of ice cream is apt to mark the upholstery of seats in theatres. Following suggestions that this marking was due to the presence of mineral oil in the coatings, a considerable number of samples were analysed. Mineral oil was absent from the chocolate coatings in all samples.

A sample of smoked fish, sold as salmon, had all the physical appearance of shark meat. Analysis, however, corresponded with that of Australian salmon and bore no resemblance to that of shark.

## MEDICO-LEGAL WORK.

Exhibits submitted to the Medico-legal Chemist were concerned with 500 cases and show a marked increase over last year; in many cases, more than one exhibit was involved. These exhibits are submitted mainly by

the coroner and the police and cover a wide range of forensic chemistry. Veterinary specimens (122) were submitted by the Department of Agriculture in connexion with the deaths of stock.

**SAMPLES SUBMITTED BY (A) MUNICIPAL HEALTH INSPECTORS, AND (B) TAKEN BY THE DEPARTMENTAL OFFICERS, ETC., AND ANALYSED AT THE DEPARTMENT'S LABORATORY FOR THE PERIOD TWELVE MONTHS ENDED 30TH JUNE, 1950.**

Sample.	A.		B.	
	Number Submitted.	Adulterated or Not Genuine.	Number Submitted.	Adulterated or Not Genuine.
Baking Powder ..	1	..	..	..
Bicarbonate of Soda ..	2	..	..	..
Bread ..	7	..	..	..
Butter ..	17	1	..	..
Cake, &c. ..	2	..	..	..
Cereals, Grains, &c. ..	11	..	..	..
Cheese ..	9	..	..	..
Cheese Cream Spread ..	..	..	1	..
Chutney, Fruit ..	3	..	..	..
Cocoa ..	12	..	..	..
Coffee ..	15	..	..	..
Coffee and Chickory ..	9	..	..	..
Coffee and Chickory Essence ..	4	1	..	..
Confectionery ..	5	..	..	..
Cordials and Syrups, Flavoured ..	1	..	..	..
Cordials and Syrups, Fruit Juice ..	4	..	..	..
Corn Flour ..	10	..	..	..
Cream ..	3	..	..	..
Cream of Tartar ..	6	..	..	..
Curry Powder ..	3	..	..	..
Custard Powder ..	9	..	..	..
Drinks, Summer and Temperance ..	6	..	..	..
Effluents ..	..	..	286	..
Fish, Smoked ..	..	..	1	..
Flour ..	10	..	..	..
Flour, Self Raising ..	4	..	..	..
Fruit, Dried ..	1	..	..	..
Ginger, Ground ..	2	..	..	..
Honey ..	1	..	..	..
Ice Cream, Ice Blocks ..	5	..	..	..
Icing Powder ..	1	..	..	..
Jam and Conserve ..	13	1	..	..
Jelly Crystals ..	3	..	..	..
Lard and Dripping ..	1	..	..	..
Meat, Chopped ..	61	19	2	1
Meat, Fresh ..	1	..	..	..
Meat, Manufactured ..	19	2	..	..
Meat, Sausages ..	171	18	7	2
Milks ..	521	10	31	1
Milk, Breast ..	..	..	17	..
Milk, Condensed ..	1	..	2	..
Milk, Dried ..	2	..	..	..
Miscellaneous ..	9	..	21	..
Miscellaneous, Industrial Hygiene Branch ..	..	..	53	..
Mustard ..	3	..	..	..
Oil, Olive ..	1	..	..	..
Pastry Mix ..	2	..	..	..
Pepper ..	3	..	..	..
Pickles ..	2	..	..	..
Sauce, Tomato ..	4	..	..	..
Sauce, Worcester-shire ..	4	..	..	..
Spices, Ground ..	4	..	..	..
Spices, Mixed ..	3	..	..	..
Spirits, Gin ..	..	..	1	..
Spirits, Schnapps ..	..	..	2	..
Spirits, Whisky ..	..	..	3	..
Vegetables ..	2	..	5	2
Vinegar ..	36	..	..	..
Water ..	..	..	6	..
Wine ..	..	..	3	..
Total ..	1,029	52	441	6

Total number of samples submitted ..	1,470
Number adulterated or not genuine ..	58
Additional samples analysed for other Departments :—	
Milks .. .. ..	284
Cheese .. .. ..	24
Cream .. .. ..	3
Effluent .. .. ..	1
Urine .. .. ..	1
	313
Total Number of Samples Analysed ..	1,783

## CHEMICAL LABORATORY.

The chemical work of the Department is carried out in the Health Section of State Laboratories, whose chemists are officers of the Department. Chemical work is mainly concerned with the analysis of samples of foods for compliance with prescribed standards, of waters for purity, of effluents in the control of sewage works and of a range of miscellaneous samples. Samples are submitted mainly by Departmental officers and by municipal inspectors. Chemical investigations are made as required by the Department. In addition, a large volume of medico-legal work is undertaken for the coroner and police.

The nature and scope of the work of the chemical laboratory is given in more detail in the report of the Government Chemist.

W. R. JEWELL,  
M.Sc., B.Met., F.R.I.C., F.A.C.I.,  
Government Chemist.

## REPORTS OF DISTRICT HEALTH OFFICERS FOR YEAR 1949.

### CENTRAL HEALTH AREA.

(a) District Staff comprised—

Dr. K. Brennan, S.H.O.  
 Dr. R. Farnbach, D.H.O.  
 Mr. K. Holland, D.H.I.  
 Mr. J. Leffers, D.H.I.  
 Mr. D. Lyall, H.I.  
 Mr. J. McCartney, H.I.

(b) Number of Municipal districts :—

Cities .. .. .. ..	29
Boroughs .. .. .. ..	1
Shires .. .. .. ..	10
	40

(c) Population, 1,337,178.

(d) Size of area, 2,350 square miles.

(e) Number of M.O.H., 48.

(f) Number of Health Insepctors, 65.

Number of groups, 4.

Mantoux Testing was carried out in the schools, kindergartens and pre-school centres in the following municipalities during 1949.

Results were as follows :—

Municipality.	No. Tested.	No. of +ve Reactors.	Percentage.
Moorabbin ..	3,689	178	4·7
Sandringham ..	3,671	186	5·1
Fitzroy ..	3,158	209	6·6
Northcote ..	5,224	230	4·4
Heidelberg ..	4,495	196	4·4
Kew ..	5,186	329	6·3
Total .. ..	25,403	1,328	5·2

Mass X-ray Surveys were held in the following municipalities :—

Municipality.	Total X-rayed.	Proved Active.	Possibly Active.
Moorabbin ..	8,216	2	18
Sandringham ..	8,745	8	42
Fitzroy ..	6,820	3	21
Northcote ..	13,864	3	28
Heidelberg ..	6,117	2	20
Kew ..	5,969	5	23

### INFECTIOUS DISEASES.

D.	S.F.	Ty.	T.B.	I.P.	Dys. (a).	Dys. (b).	P.F.	C.S.M.	Tet.	Mal.	Anch.	E.L.	Polio. E.	U.I.
291	728	8	500	492	40	3	..	44	2	2	98	3	1	10

The following table gives a summary of the work carried out by the Inspectors on the Staff.

#### INSPECTIONS.

Abattoirs .. .. .. ..	40
Bakehouses .. .. .. ..	26
Boarding Houses .. .. .. ..	24
Butchers .. .. .. ..	180
Camps .. .. .. ..	16
Cattle Saleyards .. .. .. ..	10
Dairies .. .. .. ..	23
Eating Houses .. .. .. ..	50
Enquiries (Investigations) .. .. .. ..	350
Factories .. .. .. ..	33
Grocers .. .. .. ..	40
Hotels .. .. .. ..	8
Markets .. .. .. ..	28
Offensive Trades (other than Abattoirs) .. ..	40
Public Buildings (including Racecourses and Football Grounds) .. .. .. ..	73
Private Hospitals .. .. .. ..	5
Sanitary (including Trade Wastes) .. .. ..	152
Shops (various) .. .. .. ..	42
Vehicles .. .. .. ..	65
Garbage Depots .. .. .. ..	97
N.S. Depots .. .. .. ..	16

Investigations included enquiries into :—Food-wrapping and Transport, Food-poisoning, Stream Pollution, Pest Control, Underweight Calves for Sale, Glass Washing, methods for Slaughtering Cattle and Swine, Meat Brands, Chemical Closets, Sanitary Pan Manufacture and Material Supplies.

During the year investigations in regard to quality and labelling of various foodstuffs were made, and the following investigation samples were taken:—Maple Syrup, Crystallised Cherries, Curry Powder, Tea, Milk, Confectionery, Cream, Jellies, Chocolate Spread, Meat Pastes, Cheese, Bread, Flour, Cream Substitute, Summer Drinks, Jam, Essences, Patent Medicines.

Consignments of Tinned Fish, Tea, Fruit Cake and Invalid Food considered unfit for human consumption on account of contamination or deterioration were either seized or voluntarily destroyed.

Assistance at Immunising Campaigns, Mantoux Testing and Health Weeks was also given.

#### MEAT AREAS.

Municipality.	Population Served.	Municipality.	Population Served.
Box Hill ..	25,301	Nunawading ..	12,320
Brighton ..	42,000	Oakleigh ..	18,200
Brunswick ..	58,421	Port Melbourne ..	14,500
Camberwell ..	85,245	Prahran ..	60,000
Caulfield ..	84,800	Preston ..	48,000
Coburg ..	54,894	Richmond ..	40,000
Collingwood ..	27,554	Sandringham ..	30,000
Essendon ..	58,000	St. Kilda ..	56,810
Fitzroy ..	32,500	South Melbourne ..	44,000
Footscray ..	54,731	Williamstown ..	27,000
Hawthorn ..	40,500		
Heidelberg (part) ..	43,428*		
Kew ..	34,000	Braybrook ..	15,000
Malvern ..	49,000	Dandenong ..	15,000
Melbourne ..	100,000	Frankston (part) ..	11,670*
Moorabbin ..	36,824	Keilor ..	4,001
Mordialloc ..	15,400	Mornington ..	4,200
Northcote ..	45,000	Mulgrave ..	4,000

\* Population of Municipality.

## SEWERAGE AREAS.

Melbourne and Metropolitan Board of Works.—

Box Hill	Heidelberg	Preston
Brighton	Kew	Richmond
Brunswick	Malvern	Sandringham
Camberwell	Melbourne	St. Kilda
Caulfield	Moorabbin	South Melbourne
Coburg	Mordialloc	Williamstown
Collingwood	Northcote	
Essendon	Nunawading	Broadmeadows
Fitzroy	Oakleigh	Braybrook
Footscray	Port Melbourne	Keilor
Hawthorn	Prahran	Mulgrave
Dandenong Sewerage Authority	..	Dandenong

## SEPTIC TANKS.

Number in Area, 5,447.

## NIGHT SOIL DEPOTS.

Number in Area, 10.

## WATER SUPPLY.

Melbourne and Metropolitan Board of Works—

Box Hill	Melbourne	Williamstown
Brighton	Moorabbin	
Brunswick	Mordialloc	Broadmeadows
Camberwell	Northcote	Braybrook
Caulfield	Nunawading	Doncaster
Coburg	Oakleigh	Eltham
Collingwood	Port Melbourne	Ferntree Gully
Essendon	Prahran	Keilor
Fitzroy	Preston	Healesville
Footscray	Richmond	Lilydale
Hawthorn	Ringwood	Mulgrave
Heidelberg	Sandringham	Upper Yarra
Kew	St. Kilda	Werribee
Malvern	South Melbourne	Whittlesea

State Rivers and Water Supply Commission.—

Chelsea	Dandenong
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## OFFENSIVE TRADES.

Abattoirs or slaughter-houses	..	..	..	26
Blood albumen factories or blood-boiling or blood-drying works	..	..	..	Nil
Bone boiling, burning, grinding, or milling works	..	..	..	6
Bone manure depots	..	..	..	1
Fat extracting, melting, or rendering works	..	..	..	152
Fellmongeries or wool scouring or wool washing works	..	..	..	22
Flock shoddy or mungo factories	..	..	..	16
Glue or size factories	..	..	..	3
Gut cleaning, scraping, drying, or spinning works	..	..	..	13
Knackers' yards	..	..	..	7
Manure works	..	..	..	3
Marine stores	..	..	..	49
Piggeries	..	..	..	52
Poultry killing, cleaning, or dressing	..	..	..	50
Rag picking or sorting	..	..	..	11
Soap or candle works	..	..	..	14
Soup drying works	..	..	..	Nil
Stores for skins, hides, hoofs, hair, or bones	..	..	..	59
Tripe boiling establishments	..	..	..	1
Meat boiling-down works (bones, blood, offal)	..	..	..	14
Fish curing	..	..	..	4
Pan changing, storing depots	..	..	..	3
Night soil depots	..	..	..	10
Garbage, refuse depots	..	..	..	26
Cattle sale yards	..	..	..	3
Total number of offensive trades	..	..	..	541

Samples taken in area.—3,321.  
 Samples found adulterated.—217.  
 Samples found adulterated in which no action was taken by Council.—45.

## NORTH-WESTERN HEALTH AREA.

## (a) Staff—

Dr. R. J. Farnbach, District Health Officer.  
 Mr. R. W. Pearce, District Health Inspector.  
 Miss D. M. Cotton, Visiting Tuberculosis Nurse.  
 Dr. G. T. James, Tuberculosis Officer.  
 Miss R. Douglas, Tuberculosis Nurse.

## (b) Municipal Districts—

Cities ..	..	..	..	..	2
Boroughs ..	..	..	..	..	6
Shires ..	..	..	..	..	31

(c) Population, 164,616.

(d) Area, 14,479 square miles.

(e) Number of Medical Officers of Health, 44.

(f) Number of Health Inspectors, 11.

Number of groups, 7.

No municipality is without a Health Inspector since the formation of the Wimmera Health Group during the year. The area has been re-arranged during the year to conform to the regional areas grouped together by the Central Planning Authority.

## INFECTIOUS DISEASES.

In 1949, the following infectious diseases were reported :—

Disease.	Number of Cases Reported.
Diphtheria ..	16
Scarlet Fever ..	112
Typhoid Fever ..	4
Tuberculosis ..	29
Poliomyelitis ..	72
Puerperal Fever ..	1
Hydatids ..	5
Tetanus ..	1
Cerebrospinal Meningitis ..	3
Encephalitis Lethargica ..	2
Dysentery ..	..
Helminthiasis ..	..
Malaria ..	..
Anchyllostomiasis ..	..

## DIPHTHERIA IMMUNIZATION.

Immunization was carried out in fifteen municipalities and 2,403 children were immunized.

## DISTRICT HEALTH INSPECTOR.

## Inspections carried out :—

Abattoirs ..	..	..	..	..	35
Bakehouses ..	..	..	..	..	39
Boarding Houses ..	..	..	..	..	4
Butchers' Shops ..	..	..	..	..	70
Camps ..	..	..	..	..	2
Cattle Sale Yards ..	..	..	..	..	3
Dairies ..	..	..	..	..	12
Eating Houses ..	..	..	..	..	45
Inquiries ..	..	..	..	..	20
Factories ..	..	..	..	..	2
Grocers ..	..	..	..	..	10
Hotels ..	..	..	..	..	8
Markets ..	..	..	..	..	4
Offensive Trades (including Tips, Nightsoil Depots)	..	..	..	..	46
Public Buildings ..	..	..	..	..	4
Sanitary Inspections ..	..	..	..	..	20
Shops ..	..	..	..	..	10
Vehicles ..	..	..	..	..	9

Mantoux Testing :—Ballarat City, Shire of Buninyong, Shire of Tullaroop, Borough of Maryborough.

Diphtheria Immunisation :—Ballarat City.

## MEAT AREAS.

## MASS X-RAYS.

	Meat Area.					Population. (approximate).
Ballarat	..	..	..	..	..	40,000
Horsham	..	..	..	..	..	6,500
Maryborough	..	..	..	..	..	8,000
Daylesford	..	..	..	..	..	3,100
Castlemaine	..	..	..	..	..	5,808
Kyneton	..	..	..	..	..	*

\* Not yet in operation.

## TUBERCULOSIS SKIN TESTING.

Municipality.	Number Tested.	Number Positive.
Ballarat ..	7,702	552
Buninyong ..	489	7
Maryborough ..	1,087	38
Tullaroop ..	163	2

## TRAVELLING T.B. NURSE.

Municipalities visited ..	..	37
Homes visited ..	..	706
T.B. cases visited ..	..	116
Contacts visited ..	..	807
X-rays ordered ..	..	293
Skin tests ..	..	241
Skin tests at schools ..	..	9,441

Municipality.	Number X-rayed.
Ballarat ..	20,723
Maryborough, Tullaroop ..	2,982

## OFFENSIVE TRADES.

Abattoirs—private ..	..	..	..	104
Abattoirs—municipal ..	..	..	..	2
Fat Rendering ..	..	..	..	10
Gut Cleaning ..	..	..	..	4
Knackers' Yards ..	..	..	..	2
Marine Stores ..	..	..	..	11
Piggeries ..	..	..	..	37
Poultry Killing ..	..	..	..	3
Rag Sorting ..	..	..	..	1
Skin Stores ..	..	..	..	25
Boiling Down Works ..	..	..	..	11
Night Soil Depots ..	..	..	..	42
Garbage Depots ..	..	..	..	40
Cattle Sale yards ..	..	..	..	30
Wool Scouring ..	..	..	..	3
Bone Mills ..	..	..	..	1
Fellmongering ..	..	..	..	4
Soap Works ..	..	..	..	1

## Nil.

## DANGEROUS TRADES.

Food Supplies.	
Number of samples taken (from 39 municipalities) ..	250
Number of samples adulterated ..	9
Number of samples adulterated in which no legal action was taken ..	4

## WATER SUPPLY.

The following reticulated services are in operation :--

Avoca ..	..	..	Reticulated Service ..	..	Sugarloaf Reservoir
Ballarat City ..	..	..	" "	..	Ballarat Water Commission
Ballarat Shire ..	..	..	" "	..	Ballarat Water Commission
Bacchus Marsh ..	..	..	" "	..	State Rivers and Water Supply Commission
Ballan ..	..	..	" "	..	State Rivers and Water Supply Commission
Bulla ..	..	..	" "	..	Sunbury Water Trust
Buninyong ..	..	..	" "	..	Ballarat Water Commission
Castlemaine ..	..	..	" "	..	State Rivers and Water Supply Commission
Clunes ..	..	..	" "	..	Newlyn Reservoir
Creswick ..	..	..	" "	..	Newlyn Reservoir
Daylesford ..	..	..	" "	..	Bullarto Reservoir
Dimboola ..	..	..	" "	..	Karkarooc and Wimmera Water Trust
Donald ..	..	..	" "	..	Lonsdale Scheme
Dunmunkle ..	..	..	" "	..	Wimmera United and Murtoa Water Trust
Grenville ..	..	..	" "	..	State Rivers and Water Supply Commission
Gisborne ..	..	..	" "	..	Macedon Water Trust
Glenlyon ..	..	..	" "	..	Hepburn Water Trust
Horsham ..	..	..	" "	..	State Rivers and Water Supply Commission
Kyneton ..	..	..	" "	..	Kyneton and Malmsbury Water Trust
Kaniva ..	..	..	" "	..	Kaniva Water Trust
Lowan ..	..	..	" "	..	Lowan Water Trust
Maryborough ..	..	..	" "	..	Evansford Reservoir
Newstead ..	..	..	" "	..	State Rivers and Water Supply Commission
Newham and Woodend ..	..	..	" "	..	Woodend Water Trust
Romsey ..	..	..	" "	..	Romsey Water Trust
Ripon ..	..	..	" "	..	Mt. Cole Reservoir
Sebastopol ..	..	..	" "	..	Ballarat Water Commission
Stawell Borough ..	..	..	" "	..	Grampians Supply
Stawell Shire ..	..	..	" "	..	State Rivers and Water Supply Commission
Talbot ..	..	..	" "	..	Evansford Reservoir
Tullaroop ..	..	..	" "	..	Carisbrook, Timor and Bowenvale
Wimmera ..	..	..	" "	..	State Rivers and Water Supply Commission
Warracknabeal ..	..	..	" "	..	Warracknabeal Water Trust

## SANITATION.

*Sewerage Areas.*

The following authorities are now operating:—

Ballarat Sewerage Authority.  
Castlemaine Sewerage Authority.  
Dimboola Sewerage Authority.  
Horsham Sewerage Authority.  
Kyneton Sewerage Authority.  
Murtoa Sewerage Authority.  
Nhill Sewerage Authority.  
Warracknabeal Sewerage Authority.

Areas proclaimed but not yet operating:—

Maryborough Sewerage Authority.  
Stawell Sewerage Authority.

*Septic Tanks.*

Number in Area, 1,557.

R. J. FARNBACH, M.B., B.S., D.P.H.  
District Health Officer.

## EASTERN HEALTH AREA.

## ADMINISTRATION.

District Health Officer ... Dr. N. M. Dalton  
District Health Inspector ... Mr. J. J. Willoughby  
District Tuberculosis Nurse ... Sister D. Bowden

The Eastern Health Area comprises 27 Municipalities with a total population of 159,488 and embraces an area of 17,146 square miles.

The area is divided into twelve Health Groups each employing Medical Officers of Health and a Health Inspector, and four separate Municipalities each employing a Medical Officer of Health and a Health Inspector.

## INFECTIOUS DISEASES STATISTICS.

The following notifications were received for the year:—

Disease.	Number of Cases Notified.
Diphtheria .. .. .. ..	32
Scarlet Fever .. .. .. ..	91
Pulmonary T.B. .. .. .. ..	43
Poliomyelitis .. .. .. ..	42
Cerebro-spinal Meningitis .. .. .. ..	8
Typhoid .. .. .. ..	2
Undulant Fever .. .. .. ..	1
Anehylostomiasis .. .. .. ..	2
Hydatid .. .. .. ..	1
Amoebic Dysentery .. .. .. ..	1
Bacillary Dysentery .. .. .. ..	3

With the exception of Poliomyelitis notifications (42) these figures vary but little from those of the preceding three years.

## T.B. MANTOUX SURVEYS.

Surveys were carried out on pre-school and school children in the following Municipalities:—

Morwell	Frankston, Hastings
Traralgon	Mornington
Yallourn	Flinders

Approximately 10,000 children were tested, of these 3 per cent. were positive reactors.

## TUBERCULOSIS VISITING NURSE.

Sister D. Bowden visited tuberculosis cases throughout the area and in addition assisted at Mantoux campaigns, and subsequently followed up families of positive reactors.

Number of homes visited .. .. ..	..	..	141
Number of T.B. patients visited .. .. ..	..	..	85
Number of contacts visited .. .. ..	..	..	323
Number of X-rays ordered .. .. ..	..	..	42

## DISTRICT HEALTH INSPECTOR.

In addition to routine duties Mr. Willoughby assisted in the organization and conduct of Anti-tuberculosis campaigns. Sanitary surveys were carried out in Municipalities recently incorporated in the Eastern Health Area.

Inspections carried out were as follows:—

	Inspections for Quarters Ending.				
	1949.		1950.	Total.	
	Sept.	Dec.	March.		
Abattoirs .. ..	24	36	21	22	103
Bakehouses .. ..	6	12	15	7	40
Boarding Houses .. ..	6	6	40	3	55
Butechers .. ..	7	12	9	57	85
Camps .. ..	..	7	10	5	22
Cattle Sale Yards .. ..	..	2	2	1	5
Dairies .. ..	..	1	6	4	11
Eating Houses .. ..	6	9	8	7	30
Enquiries .. ..	50	75	61	83	269
Factories .. ..	..	2	8	6	16
Grocers .. ..	2	5	4	13	24
Hotels .. ..	1	3	4	3	11
Markets .. ..	2	2	2	..	6
Offensive Trades .. ..	13	13	16	15	57
Private Hospitals .. ..	..	..	..	5	5
Public Buildings .. ..	..	6	9	12	27
Sanitary .. ..	27	22	70	30	149
Shops .. ..	16	26	29	18	89
Vehicles .. ..	6	7	19	14	46
Total .. ..	166	246	333	305	1,050

Condemned.	Hydatid.	Fluke and Hydatid.	Total.
Meats—			
Livers, Sheep .. ..	103	5	111
Livers, Ox .. ..	2	..	
Livers, Pig .. ..	1	..	
Forequarter Mutton contaminated by dirt .. ..	..	..	10 lbs.
Manufactured, decomposing .. ..	..	..	10 lb.
Ham, decomposing .. ..	..	..	5 lb.
Assorted Foods—			
Meals, weevil .. ..	..	..	15 lb.
Fresh fruit, decomposing .. ..	..	..	5 cases
Syrup flavouring contaminated by dirt .. ..	..	..	1 gall.

Investigations.	Comply.	Not Comply.	Chem.	Bact.
Samples Taken—				
Factory Drainage ..	10	..	..	..
Water ..	..	..	..	3
Methylated Spirit ..	1	..	..	..
Food Samples—				
Meat .. ..	2	2	..	..
Milk .. ..	2	2	..	..
Chocolate .. ..	1	..	..	..
	16	..	..	3
				1

#### MEAT AREAS.

Meat Areas exist at Sale, Morwell, Yallourn, Traralgon, Frankston-Hastings, and Mornington.

Investigations of slaughtering establishments throughout the Eastern Area have been carried out with a view to ensuring that all Municipalities will have meat supervision and inspection. Conferences between Departmental officers, Central and Regional planning authorities and municipal bodies have been arranged in an attempt to obtain the most economic and satisfactory solution with regard to the introduction of complete meat inspection in the Area.

#### SANITATION.

(a) Sewerage areas exist at Bairnsdale, Warragul, Morwell, and Mornington. Works are partly completed at Maffra, Traralgon, Leongatha, and Yallourn.

(b) There are 23 Nightsoil Depots in the Area and 1,598 Septic Tanks.

(c) State Rivers and Water Supply—

Berwick	Cranbourne	Frankston	Wonthaggi
Bass	Flinders	Mornington	

Water Trusts exist in the following places:—Orbost, Omeo, Stratford, Bairnsdale, Maffra, Sale, Rosedale, Traralgon, Leongatha, Yallourn, Morwell, Moe, Trafalgar, Warragul, Drouin, Korumburra, Foster, Toora, Yarram, Mirboo North, Wonthaggi.

#### OFFENSIVE TRADES.

Abattoirs ..	.. 97 of which eighteen are in six Meat Areas
Nightsoil Depots ..	33
Refuse Tips ..	25
Miscellaneous ..	112 which include Cattle Sale-yards, Hide and Skin Stores, Marine Yards, Fat Rendering and Tripe, Knackers' Yards, Poultry Dressing
Total ..	267

#### FOOD SUPPLIES.

During the year the various Municipalities exercised the following supervision:—

Samples taken ..	.. 295
Number found to be adulterated ..	.. 13
Number legal action taken ..	.. 4

Appropriate action was taken concerning breaches of the Regulations. (The four cases above were warned by Council.)

NORMAN DALTON,  
District Health Officer.

#### NORTH-EASTERN HEALTH AREA.

##### ADMINISTRATION.

District Health Officer, Dr. N. M. Dalton.

District Health Inspector, Mr. E. S. A. Wing.

District Tuberculosis Nurse, Sister J. Hevey.

The North-Eastern Health Area comprises 30 municipalities with a total population of 119,893 and embraces an area of 17,800 square miles.

Medical Officers of Health are 36 in number. Health Inspectors are 14 in number, and there are 8 Health Groups.

#### INFECTIOUS DISEASE STATISTICS.

The following notifications were received for the year:—

Diphtheria ..	.. .. ..	33
Scarlet Fever ..	.. .. ..	227
Typhoid ..	.. .. ..	2
Pulmonary T.B. ..	.. .. ..	45
Poliomyelitis ..	.. .. ..	61
Amoebic Dysentery ..	.. .. ..	1
Cerebro-Spinal Meningitis ..	.. .. ..	4
Bacillary Dysentery ..	.. .. ..	4
Undulant Fever ..	.. .. ..	2

An outbreak of Scarlet Fever at Wodonga (134 cases) accounts for the high figure in this disease.

#### T.B. MANTOUX SURVEYS.

Surveys were carried out on pre-school and school children in the following municipalities:—

Mansfield	Myrtleford
Alexandra	Bright
Seymour	Waranga
Yea	

Approximately 5,000 children were tested and of these 3.5 per cent. were positive reactors.

#### TUBERCULOSIS VISITING NURSE.

Throughout the Area, Sister Hevey visited tuberculosis cases and in addition assisted in the organisation and conduct of Mantoux campaigns and subsequently followed up families of positive reactors.

Number of homes visited ..	.. ..	210
Number of T.B. patients visited ..	.. ..	40
Number of Contacts ..	.. ..	236
Number of X-rays ordered ..	.. ..	147

#### DISTRICT HEALTH INSPECTOR.

During the year inspections were carried out by Mr. Wing as follows:—

Abattoirs ..	.. .. ..	60
Bakehouses ..	.. .. ..	18
Boarding Houses ..	.. .. ..	7
Butchers ..	.. .. ..	39
Camps ..	.. .. ..	17
Cattle Sale Yards ..	.. .. ..	7
Dairies ..	.. .. ..	6
Eating Houses ..	.. .. ..	25
Factories ..	.. .. ..	17
Grocers ..	.. .. ..	14
Hotels ..	.. .. ..	8
Markets ..	.. .. ..	
Offensive Trades (other than Abattoirs) ..	.. .. ..	45
Private Hospital ..	.. .. ..	
Public Buildings ..	.. .. ..	9
Sanitary (including trade wastes) ..	.. .. ..	9
Shops (various) ..	.. .. ..	12
Vehicles ..	.. .. ..	10
Race Course, Football Grounds ..	.. .. ..	30
Enquiries and Investigations ..	.. .. ..	19
Foodstuffs Condemned ..	.. .. ..	

Prosecutions and Results.—Euroa, Dirty Slaughter Yards, Fined £18.

Shepparton, Dirty Cafe, Convicted Fine held over.

#### MEAT AREAS.

Shepparton Meat Area comprises the whole of the Borough and part of the Shire.

Rodney Meat Area comprises a central part of Rodney Shire including Mooroopna and Tatura.

Wangaratta Meat Area includes the Borough and small portions of the two adjacent Shires.

## SANITATION.

## Existing Sewerage Areas.—

Benalla	Wangaratta
Shepparton	Echuca

## Proposed Sewerage Areas.—(System not in operation).—

Beechworth	Wodonga
Euroa	Yea
Kyabram	Numurkah

*Septic Tanks.*

Nine hundred and seventy are recorded, but others exist in some Shires from which information is not available.

*Night Soil Depots.*

Forty-five depots.

## WATER SUPPLIES.

The following Trusts are in existence:—

Alexandra	Rutherglen
Avenel	Seymour
Benalla	Shepparton (Shire)
Bright	Shepparton (urban)
Chiltern	Tallangatta
Cobram	Tatura
Corryong	Tongala
Euroa	Tungamah
Glenrowan	Underbool
Kilmore	Violet Town
Kyabram	Wangaratta
Longwood	Warburton
Mansfield	Wodonga
Merrigum	Yackandandah
Mooroopna	Yea
Numurkah	

## OFFENSIVE TRADES.

Abattoirs and Slaughter Houses	..	81
Bone boiling, burning, &c. (bone mill)	..	1
Fat extracting	..	8
Fellmongers &c. (wool scouring)	..	2
Gut cleaning &c.	..	2
Knackers' yards	..	1
Piggeries	..	5
Poultry killing	..	2
Stores for Skins, Hides &c.	..	23
Refuse Depots	..	25

## DANGEROUS TRADES.

Nil.

## FOOD SUPPLIES.

No. of samples taken	..	..	305
Number of samples found to be adulterated	..	7	
Number of legal actions taken	..	5	

In the remaining two cases action is pending.

## NORTHERN HEALTH AREA.

## ADMINISTRATION.

District Health Officer, Dr. E. J. Crowe.	
District Tuberculosis Officer, Dr. K. G. Kerr.	
District Health Inspector, Mr. E. A. Blount.	
Chest Clinic Sister (Bendigo), Miss Catran.	
Chest Clinic Typiste, Miss J. McIlroy.	
Visiting T.B. Nurse, Miss P. Burlinson (appointed 3/7/50, in place of Sister Quinn, resigned).	

## Number of Municipal Districts.—

Cities	..	..	..	..	2
Boroughs	..	..	..	..	4
Shires	..	..	..	..	18

Population of Area, 138,861.

Size of Area, 21,829 square miles.

Medical Officers of Health, 29.

## Health Inspectors.—

## Allocation of Inspectors—

4 in Groups;
2 in Shires from Groups in other Areas;
2 in Bendigo;
1 in Mildura City;
1 in Swan Hill Borough;
1 in Mildura Shire.

Each municipality is served by a Medical Officer of Health, and Health Inspector.

## INFECTIOUS DISEASES.

## Statistics for year ending 31st December, 1949.

Diphtheria	..	..	..	..	36
Scarlet Fever	..	..	..	..	87
Typhoid	..	..	..	..	2
Tuberculosis	..	..	..	..	77
Poliomyelitis	..	..	..	..	57
Dysentery	..	..	..	..	0
Puerperal Fever	..	..	..	..	0
Cerebrospinal Meningitis	..	..	..	..	2
Tetanus	..	..	..	..	0
Malaria	..	..	..	..	0
Anchylostomiasis	..	..	..	..	0

*Scarlet Fever.*

*St. Arnaud.*—There was a typical outbreak of Scarlet Fever in St. Arnaud in August, 1949. The outbreak was explosive in nature and entirely confined to St. Arnaud. A large number of adults was infected, the majority had a common milk supply from an adjacent dairy.

Three members of this dairy gave positive swabs for haemolytic streptococci type A., and similar organisms were isolated from one sample of milk. The dairy was closed and employees with positive throat swabs isolated.

In all there were 44 definite cases of which 30 occurred between the 1st and 8th August. The majority of the cases were nursed at home and school age contacts isolated. Though some of the cases developed complications, a number of adults had moderately severe attacks and were treated with Penicillin. The outbreak was remarkable for the small number of secondary cases produced.

The milk supply from this dairy was not pasteurised, conditions at the dairy were unhygienic; and the town of St. Arnaud and adjoining Shire did not then come under the provisions of the Milk Supervision Act.

## T.B. MANTOUX SURVEYS.

Municipality.	Number of Children Tested.	Positive.
Bendigo, Eaglehawk, Strathfieldsaye Shire, Marong Shire	6,056	220
Swan Hill Shire	1,835	29
Kerang	1,990	34
Cohuna Shire	735	15
Swan Hill Borough	1,254	33

## VOLLUM AND MANTOUX.

*Swan Hill Borough.*—Percentage positive in each age group tested as follows:—

0-3 years	..	..	1·32 per cent.
3-6 years	..	..	0·50 per cent.
6-8 years	..	..	3·20 per cent.
8-10 years	..	..	2·03 per cent.
10-12 years	..	..	5·08 per cent.
12-14 years	..	..	3·83 per cent.
14-16 years	..	..	1·83 per cent.

## B.C.G. VACCINATION.

No. Vaccination.		Group Vaccination.
104	..	Hospital Staff
68	..	T.B. Contacts.

## Conversion Rate.

Imported Vaccine .. .. ..	84 per cent.
Commonwealth Vaccine .. .. ..	90 per cent.
Average Rate .. .. ..	87 per cent.

## MASS X-RAY.

## X-ray Survey.

Places.	Miniature Films.					Large Films.					Totals.	
	Males.		Females.		Totals.	Adults.		Children.				
	Adults.	Children.	Adults.	Children.		1st L.F.	Re Ray.	1st L.F.	Re Ray.			
Kerang ..	1,455	206	1,450	243	3,354	194	..	62	..	256		
Swan Hill ..	2,479	287	2,479	302	5,547	416	8	97	3	524		
Totals ..	3,934	493	3,929	545	8,901	610	8	159	3	780		

## T.B. Abnormalities.

Places.	Proved Active.	Possibly Active.	Healed or Quiescent.	Totals.	Non T.B. Abnormalities.	Total Abnormalities.
Kerang .. .. .. ..	..	9	39	48	42	90
Swan Hill .. .. .. ..	1	12	65	78	114	192
Totals .. .. .. ..	1	21	104	126	156	282

## TRAVELLING T.B. NURSE.

Sister Quinn visited the homes of T.B. cases and contacts, carried out Mantoux campaigns; Mantoux testing of contacts, and arranged for the X-ray examination of cases and contacts. In addition she did the follow up work of Mantoux campaigning, skin tested contacts of Mantoux positive reactors, and arranged their X-ray examinations. There was a close liaison between Sister Quinn and the Chest Clinic in Bendigo.

The following is a summary of her work during the year :—

Number of Homes visited .. .. ..	312
Number of contacts visited .. .. ..	331
Number of T.B. cases visited .. .. ..	76
Number of X-rays ordered for T.B. cases .. ..	16
Number of X-rays ordered for T.B. contacts .. ..	109
Number of children patch and Mantoux tested .. ..	267
Number of children positive .. .. ..	27
Number of sputums positive .. .. ..	4
Number of sputums for examination .. .. ..	14
Number of Positive Mantoux children visited .. ..	540
X-ray examination ordered for Positive Mantoux children and their contacts .. .. ..	200

## DISTRICT HEALTH INSPECTOR.

Conferred with Municipal Council Executive Officers on Health matters concerning their respective Municipalities, helped in the organization and assisted in the conduct of anti-tuberculosis campaigns, advised and assisted Health Inspectors throughout the Health Area, and attended to all matters referred to him from the Head Office.

## Inspections carried out :—

Abattoirs, slaughter-houses .. .. ..	162
Bakehouses .. .. ..	126
Boarding-houses .. .. ..	15
Butchers .. .. ..	178
Dairies .. .. ..	17
Eating Houses .. .. ..	135

## Inspections carried out—continued.

Enquiries (investigations) .. .. ..	.. .. ..	40
Factories .. .. ..	.. .. ..	32
Grocers .. .. ..	.. .. ..	173
Hotels .. .. ..	.. .. ..	18
Offensive Trades (other than abattoirs) .. .. ..	.. .. ..	33
Public Buildings .. .. ..	.. .. ..	20
Sanitary (including trade wastes, &c.) .. .. ..	.. .. ..	99
Shops (various) .. .. ..	.. .. ..	181
Vehicles .. .. ..	.. .. ..	110
Racecourse Booths .. .. ..	.. .. ..	7
Hairdressers .. .. ..	.. .. ..	6

## Foodstuffs condemned by Council Health Inspectors :—

26 tins canned Prunes .. .. ..	Blown and Leaking
36 tins Jams .. .. ..	Blown and Leaking
15 tins Fish .. .. ..	Blown
1 case tomatoes .. .. ..	Rotten
1 case apricots .. .. ..	Rotten
18 packets raisins .. .. ..	Rotten
6 packets pearl barley .. .. ..	Weevil infested
22 boxes of fish .. .. ..	
446 lb. German sausage .. .. ..	
106 lb. Pork sausage .. .. ..	
22 lb. Strasbourg Sausage .. .. ..	
100 lb. Pork sausage .. .. ..	Unwholesome
4 lb. pressed ham .. .. ..	
138 lb. corned beef .. .. ..	
50 lb. frankettes .. .. ..	
50 lb. frankfurts .. .. ..	
40 dozen saveloys .. .. ..	

## MEAT AREAS.

	Population Served
Bendigo .. .. ..	26,739
Mildura .. .. ..	10,500

*Proposed Meat Areas.—*

Borough of Eaglehawk.

Township of Kangaroo Flat plus small adjoining area of Parish of Mandurang.

Meat now sold in Borough of Eaglehawk and Kangaroo Flat is killed by Victorian Inland Meat Authority at their Abattoirs in Strathfieldsaye Shire. Proposed that this abattoir will continue to serve this meat area.

## SEWERAGE AREAS.

*Existing.—*

Bendigo ..	..	Bendigo Sewerage Authority.
Kerang ..	..	Kerang Sewerage Authority.
Mildura ..	..	Mildura Sewerage Authority.
Swan Hill ..	..	Swan Hill Sewerage Authority.

*Proposed Sewerage Areas.—* Charlton Sewerage Authority. Septic Tanks in Area, 451.*Night Soil Depots, 47.—* In many municipalities, difficulty is experienced from time to time with Sanitary Contractors, and many do not comply with the requirements of Sanitary Regulations.

## WATER SUPPLIES.

## Names of Trusts.—

Elmore Water Trust.
Inglewood Water Supply District.
Mildura Water Trust.
Heathcote Waterworks Trust.
Swan Hill Waterworks Trust.
St. Arnaud Borough Waterworks Trust.

State Rivers and Water Supply Commission supplies water to majority of townships in Northern Area.

## OFFENSIVE TRADES.

Abattoirs or Slaughter-houses ..	..	..	46
Bone manure depots ..	..	..	1
Fat extracting or melting or rendering works ..	..	..	4
Gut cleaning or gnt scraping or gut drying or gnt spinning works ..	..	..	1
Knackers' yards ..	..	..	1
Manure works ..	..	..	1
Marine stores ..	..	..	4
Piggeries ..	..	..	20
Poultry killing or cleaning or dressing ..	..	..	4
Garbage depots ..	..	..	20
Nightsoil depots ..	..	..	47
Cattle Saleyards ..	..	..	18

## FOOD SUPPLIES.

Number of samples taken ..	..	..	250
Number of samples adulterated ..	..	..	13
Number of adulterated samples in which no action was taken ..	..	..	8

There is still a tendency to sample foods produced or manufactured outside the municipality. Though the Act does not prohibit this, inspectors would generally be performing a greater service by sampling locally prepared foodstuffs.

## WESTERN HEALTH AREA.

DISTRICT HEALTH OFFICER.—Dr. E. Forbes Mackenzie.
DISTRICT HEALTH INSPECTOR.—Mr. L. N. Strahle.
CHEST CLINIC MEDICAL OFFICER.—Dr. D. N. L. Seward.
CHEST CLINIC SISTER.—Miss J. Brown.
CHEST CLINIC ASSISTANT.—Mrs. M. Austen.
TUBERCULOSIS DISTRICT VISITING SISTER.—Miss G. Sweeting.

Number of Municipal Districts and Type—5 cities, 3 towns, 3 boroughs, 23 shires = 34 municipalities.

During the year the town of Ararat and the Shires of Ararat, Kowree, and Werribee were jointed to the Western Health Area.

The Town of Newton and Chilwell was created a City, likewise the Town of Hamilton, whilst the Boroughs of Colac and Portland were created Towns.

Population of Health Area has increased from 169,074 in 1948 to 193,784 in 1949, chiefly by the addition of the above-mentioned additional four municipalities.

Size of Health Area—increased similarly from 12,766·3 square miles to 16,411·55 square miles.

Medical Officers of Health.—The 30 municipalities in 1948 employed 33 Medical Officers of Health. They have been increased by six, making the total now employed 39. Several of these Medical Officers of Health, however, act for more than one Council.

Health Inspectors.—There were eighteen Health Inspectors employed by the 34 municipalities in 1949, but during the year three Councils lost the services of such employees and the positions are still vacant.

There are five Group Health Inspectors, two acting for seven, one part-time for three, and two for two municipalities.

Areas without Health Inspectors.—Ararat and Colac towns, and Warrnambool Shire.

## NOTIFIABLE INFECTIOUS DISEASES—YEAR 1949.

Municipality.	Dip.	S.F.	Ty.	T.B.	Polio.	Hyd.	C.S.M.	Tet.	Mal.	Anc.	U.F.
Geelong City ..	..	3	..	13	3	1	2	..	..	1	..
Geelong West City ..	1	..	..	4	1	1	..	..	..	..	..
Hamilton City ..	..	2	..	4	9	1	..	..	1	..	..
Newtown and Chilwell City ..	..	1	..	7	3	..	..	..	..	..	..
Warrnambool City ..	..	..	..	8	1	..	..	1	..	..	..
Ararat Town ..	..	2	1	2	2	..	..	..	..	..	..
Colac Town ..	..	5	..	1	2	1	..	..	..	..	..
Portland Town ..	..	..	..	3	1	..	..	..	..	..	..
Koroit Borough ..	..	1	..	2	..	..	..	..	..	..	..
Port Fairy Borough ..	..	5	..	1	1	..	..	..	..	..	..
Queenscliffe Borough ..	..	1	..	2	..	..	..	..	..	..	..
Ararat Shire ..	..	1	..	..	2	..	..	..	..	..	..
Bannockburn Shire ..	..	..	..	..	1	..	..	..	..	..	..
Barrabool Shire ..	..	..	..	..	3	..	..	..	..	..	..
Belfast Shire ..	..	..	2	..	1	..	..	..	..	..	..
Bellarine Shire ..	..	..	..	..	2	..	..	..	..	..	..
Colac Shire ..	..	1	..	..	2	..	..	..	..	..	..
Corio Shire ..	..	2	..	..	2	..	..	..	..	..	..
Dundas Shire ..	..	..	..	..	2	..	..	..	..	..	..
Glenelg Shire ..	..	..	..	..	4	1	..	..	..	..	..
Hampden Shire ..	..	..	3	..	3	1	1	..	..	..	1
Heytesbury Shire ..	..	..	2	..	1	1	..	..	..	..	..

NOTIFIABLE INFECTIOUS DISEASES—YEAR 1949—*continued.*

Municipality.	Dip.	S.F.	Ty.	T.B.	Polio.	Hyd.	C.S.M.	Tet.	Mal.	Anc.	U.F.
Kowree Shire ..	..	..	..	..	..	..	..	..	..	..	..
Leigh Shire ..	..	..	..	..	..	..	..	..	..	..	..
Minhamite Shire ..	..	..	..	..	..	..	..	..	..	..	..
Mortlake Shire ..	..	..	..	..	..	..	..	..	..	..	..
Mount Rouse Shire ..	..	..	..	..	..	..	..	..	..	..	..
Otway Shire ..	..	..	..	..	..	..	..	..	..	..	..
Portland Shire ..	..	..	..	..	..	..	..	..	..	..	..
South Barwon Shire ..	..	..	..	..	..	..	..	..	..	..	..
Wannon Shire ..	..	..	..	..	..	..	..	..	..	..	..
Warrnambool Shire ..	..	..	..	..	..	..	..	..	..	..	..
Werribee Shire ..	..	..	..	..	..	..	..	..	..	..	..
Winchelsea Shire ..	..	..	..	..	..	..	..	..	..	..	..
Total ..	..	5	34	1	63	49	9	4	2	2	1
											3

In addition to the above, Otway Shire reported one Amoebic Dys., Portland Shire reported one Bacillary Dys.

## ANTI-TUBERCULOSIS CAMPAIGNS—MANTOUX AND VOLLMER SKIN TESTS.

Municipality.	Schools and Clinics.	Children Tested and Read.	Positive Reactors.	Adults Tested and Read.	Positive Reactors.
Geelong City ..	14	2,988	93	81	29
Geelong West City ..	8	1,299	34	36	8
Newtown and Chilwell City ..	10	2,271	85	95	33
Queenscliffe Borough ..	4	357	2	11	4
Bannockburn Shire ..	1	20	..	..	..
Bellarine Shire ..	10	348	3	35	8
Corio Shire ..	11	1,391	62	214	77
South Barwon Shire ..	15	1,124	35	29	11
Clinics Special (Pre-school) ..	3	139	15	245	117
Clinics X-ray Staff ..	1	269	6	2	..
Totals for Geelong ..	77	10,206	335	748	287

Percentage of Positive Reactors—Children 3·2, Adults 38·5.

## ANTI-TUBERCULOSIS CAMPAIGNS—MANTOUX SKIN TESTS.

Municipality.	Schools.	Children Tested and Read.	Positive Reactors.	Percentage Positive Reactors.
Heytesbury Shire ..	23	1,280	40	3·1
Warrnambool City ..	9	1,930	107	5·5
Warrnambool Shire ..	35	1,512	68	4·49
Koroit Borough ..	2	242	5	5·0
Port Fairy Borough ..	2	358	12	3·3
Belfast Shire ..	7	212	7	3·3
Totals ..	78	5,534	239	..

*Mass X-ray.*—Mass X-ray Surveys were conducted at Geelong in conjunction with the Skin Test Campaigns for the eight municipalities as noted.

Surveys were also carried out at Hamilton and Warrnambool City in conjunction with the Warrnambool District, Koroit, Port Fairy, and Belfast Shire skin test surveys.

At Cobden for the Heytesbury Shire campaign only the positive reactors were radiographed.

Results are as follows:—

## X-RAY SURVEYS.

Place.	Miniature Films.				Large Films.				T.B. Abnormalities.				Non-T.B. Abnormalities.	Total Abnormalities.		
	Males.		Females.		Adults.		Children.		Proved Active.		Possibly Active.					
	Adults.	Children.	Adults.	Children.	Total.	First L.F.	Re-Ray.	First L.F.	Re-Ray.	Totals.	Adults.	Children.	Totals.			
Geelong ..	7,643	576	7,393	586	16,198	1,039	24	259	4	1,324	16	34	271	321	343	664
Hamilton ..	2,261	204	2,244	215	4,924	218	..	4	..	222	1	7	41	49	98	147
Warrnambool ..	3,669	361	4,088	428	8,546	386	1	186	4	577	6	19	95	120	203	323
Cobden ..	..	..	..	..	..	..	..	42	..	42	1	1	3	5	..	5
Totals ..	13,573	1,141	13,725	1,229	29,668	1,643	25	489	8	2,165	24	61	410	495	644	1,139

#### WORK OF THE T.B. VISITING NURSE.

This work was carried out by Sister Stenborg from February to March, 1949, and by Sister Brown from 6th June to 31st July, 1949.

Sister Stenborg assisted in the Geelong and District Anti-T.B. Campaign, when approximately 10,000 Mantoux tests were performed. Her follow-up work included clinics for the relatives of Mantoux-positive reactors.

#### SUMMARY OF WORK DONE.

Number of houses visited .. ..	191
Number of contacts interviewed .. ..	323
Number of X-ray orders issued .. ..	311
Number of children Vollmer tested .. ..	36
Number of children Mantoux tested .. ..	20
Number of T.B. patients visited .. ..	63

#### CHEST CLINIC, GEELONG—ACTIVITIES 1949.

New cases applying for admission .. ..	192
New cases for observation and treatment .. ..	177
Re-attendance of patients .. ..	1,017
Re-examinations of patients .. ..	855
Cases passed for sanatoria .. ..	18
Cases referred to Geelong Hospital .. ..	16
Cases transferred to sanatorium .. ..	2
Sanatorium cases transferred to clinic .. ..	5
Patients discharged after treatment .. ..	36
Patients found non-tuberculous .. ..	36
Contacts of infecting cases .. ..	43
Contacts examined .. ..	121
Contacts re-examined .. ..	550
Contacts found tuberculous .. ..	10
Invalid pensioners seen .. ..	179
Home visits by clinic sister .. ..	417
Pneumothorax refills .. ..	130
X-ray examinations .. ..	481
Screen examinations .. ..	164
Sputum examinations .. ..	159
Total attendances old and new cases .. ..	1,209
Evening clinic attendances .. ..	179
Coryza Vaccine injections .. ..	24

#### DIPHTHERIA IMMUNISATION, 1949. FORMALISED TOXOID.

Municipality.	Number Tested.	Moloney Positive.	One Injection.	Two Injections.	Three Injections.
Portland Shire ..	403	46	10	1	341
Warrnambool Shire	745	4	40	18	683
Corio Shire ..	398	14	7	30	338

#### ALUM-PRECIPITATED TOXOID.

Warrnambool City, 1 injection only, 15; 2 injections, 147.

#### DISTRICT HEALTH INSPECTOR'S DUTIES.

During 1949, the D.H.I. attended conferences in company with the District Health Officer, acted as Secretary to a co-ordinating committee of Geelong District Municipal Health Officers and Health Inspectors. He assisted in the carrying out of skin testing campaigns and in the preliminary organization of the Geelong District Mass X-ray Survey. He supervised and assisted the local Health Inspectors and conducted investigations referred from Head Office and the District Health Officer.

In addition the following work was performed:

Enquiries and conferences .. ..	..	39
Camping Areas .. ..	..	24
Private Hospitals .. ..	..	7
Public Buildings .. ..	..	17
Sanitary .. ..	..	44
Trade Premises .. ..	..	72

#### MEAT AREAS.

Geelong.—Six, composed of Cities of Geelong and Geelong West, Town of Newtown and Chilwell, parts of the Shires of Corio and South Barwon, and the Borough of Queenscliffe, population 50,000.

Warrnambool City and part of the Shire of Warrnambool, population 12,000.

Hamilton.—City of Hamilton, population 7,000.

Colac.—Town and part of the Shire of Colac, population 7,000.

Portland.—Town and part of the Shire of Portland, population 4,000.

Ararat.—Ararat Meat Area, population 6,000.

#### PROPOSED MEAT AREAS.

Owing to lack of co-operation between the Shires involved, little progress has been made in establishing the Corangamite meat area, or in arrangements for the construction of an abattoir at Boocan.

#### NEW AREAS—SANITATION.

Geelong Waterworks and Sewerage Trust—

Drainage area embraces 9,471 acres including the Cities of Geelong and Geelong West, the Town of Newtown and Chilwell, and the suburban areas of the Shires of Corio, South Barwon, and Bellarine. Sewer outfall to Bass Strait at Black Rock, about 9 miles from Geelong.

Warrnambool Sewerage Authority—

Area of District—860 acres.

Population 8,000. Tenements 1,947. Sewage conveyed to the Southern Ocean.

Ararat Sewerage Authority—

Population 6,000. Tenements 1,361.

Colac Sewerage Authority—

Population 5,900. Tenements 1,500. Outfall Lake Colac.

Hamilton Sewerage Authority—

Population served 5,000.

Portland Sewerage Authority—

Area of District 426 acres.

Population 2,400. Tenements 600. Sewage outfall to sea.

Queenscliffe Sewerage Authority—

Population 2,700. Tenements 694. Installation of mains, &c., not yet started.

Lorne Sewerage Authority—

District Proclaimed and Authority Constituted, 1938. Installation of mains, &c., not yet commenced.

In addition to the above the following towns have opened negotiations for sewerage installations:—

Port Fairy Borough; Portarlington and Ocean Grove in Bellarine Shire; Camperdown and Terang in Hampden Shire; and Torquay and Barwon Heads in South Barwon Shire.

Septic Tanks.	Chemical Closets.	Double Pans.
1,748	125	12,305

#### NIGHT SOIL DEPOTS.

All except three municipalities have established depots.

#### WATER SUPPLY.

The only addition has been the works commenced to provide Geelong City Domestic Water Supply with an additional service basin at Highton. This will be in use during the coming year.

- Geelong Waterworks and Sewerage Trust**  
 Catchment Area 17,000 acres.  
 Population supplied 54,200.  
 Storage 2,738,120,000 gallons.  
 Supplementary supply from Bellarine Peninsula System  
   of the State Rivers and Water Supply Commission  
   of a minimum of 545,500,000 gallons per annum.  
 Supplies the Cities of Geelong and Geelong West,  
   Town of Newtown and Chilwell, and suburban  
   areas of the Shires of Corio, South Barwon,  
   and Bellarine.
- Warrnambool City Water Supply District—**  
 Embracing an area of 1,400 acres. Population supplied  
   8,500. Pipe line from Otway Ranges to reservoir  
   at Tank Hill, Pannure.
- Colac Waterworks Trust—**  
 Embracing an area of 2,879 acres. Population  
   supplied 6,400. Source of supply Glengolah  
   River near Mt. Sabine in Otway Ranges.
- Hamilton Waterworks Trust—**  
 Embracing an area of 5,100 acres. Population supplied  
   6,000. Two service reservoirs of 14,000,000  
   gallons each and original storage reservoir of  
   30,000,000 gallons. Water brought from  
   Grampians 24 miles distant.
- Koroit Waterworks Trust—**  
 Supplies portion of Koroit Township.  
 Embracing an area of 1,000 acres. Population supplied  
   950. Gathering wells collecting water  
   from springs near edge of Tower Hill and Koroit  
   Lakes.
- Port Fairy Waterworks Trust—**  
 Embracing an area of 3,800 acres. Population supplied  
   1,600. Reservoir capacity 120,000,000 gallons  
   at "Aringa," gravity main to low level basin,  
   pumphouses, and standpipe on Princes Highway.  
   Low level basin capacity 500,000 gallons. Stand-  
   pipe capacity 150,000 gallons.
- Ararat Town Water Supply District—**  
 Area of 3,846 acres. Population supplied 5,800.  
 Supplies town and part of shire.
- Werribee Water Supply District—**  
 Area 900 acres. Population 3,000.  
 Supplied by Melbourne and Metropolitan Board of  
   Works.  
 Supplies Werribee Town and Shire.
- Portland Waterworks Trust—**  
 Embracing an area of 2,860 acres.  
 Bores, pumping plant, pipe main, standpipe, and  
   reticulation to Town of Portland.
- State Rivers and Water Supply Commission—Water-  
 works Districts—**  
**Bellarine Peninsula.**—Comprising portions of Otway,  
   Winchelsea, Barrabool, South Barwon, and Bel-  
   larine Shires, and Borough of Queenscliffe.  
 Source of supply, Upper Barwon River and tributaries.  
**Works.**—Inlet Channel, Wurdee Boluc. Reservoir  
   capacity, 2,700,000,000 gallons. Outlet channel  
   to Waurn Ponds Pipe Head Basin, capacity  
   70,000,000 gallons, Waurn Ponds Auxiliary Basin,  
   capacity 26,000,000 gallons, thence mains to  
   Bellarine Reservoir, capacity 97,000,000 gallons.  
 Supplementary supply to Geelong. Pipe reticula-  
   tion supplies Townships of Drysdale, Portarlington,  
   Queenscliffe, Point Lonsdale, Barwon Heads,  
   Ocean Grove, Torquay, and Anglesea.
- Drysdale.—Twin earthen basins, 6,806,000 gallons.  
 Portarlington.—Concrete service basin, capacity  
   208,000 gallons.
- Queenscliffe and Point Lonsdale.—Earthen storage  
   basin, capacity 6,806,000 gallons.
- Barwon Heads and Ocean Grove.—Concrete service  
   basin, capacity 270,000 gallons.
- Torquay.—Service basin, capacity 5,445,000 gallons.
- Anglesea.—Service basin, capacity 3,210,000 gallons.
- Otway.—Comprising portions of Hampden, Heytes-  
   bury, Mortlake, Otway, and Warrnambool Shires.
- Source of Supply Arkins Creek.**
- Works.**—Three concrete diversion weirs on Arkins  
   Creek, 79 miles of main pipe line extending  
   from Arkins Creek to Warrnambool; Tank  
   Hill storage, capacity 150,600,000 gallons; Mt.  
   Ewen storage, capacity 105,450,000 gallons;  
   Camperdown storage, capacity 30,000,000 gallons.  
 Pipe reticulation supplies townships of Allansford,  
   Camperdown, Cobden, and Terang. Supply to  
   Warrnambool.
- Allansford.—Source of supply Arkins Creek.
- Camperdown.—Earthen storage 30,000,000 gallons;  
   concrete lined basin, capacity 716,000 gallons.
- Cobden.—Earthen storage, capacity 5,860,000 gallons.
- Terang.—Circular concrete tank, capacity 677,000  
   gallons.
- Birregurra.—Source of supply—Upper Barwon River  
   and tributaries and the works of the Bellarine  
   Peninsula Waterworks District. Local works—  
   Earthen storage reservoir, capacity 17,000,000  
   gallons.
- Winchelsea Waterworks Trust—**  
 Embracing area of 500 acres. Population supplied,  
   525.  
 Connected to Wurdee Boluc Reservoir.
- Lorne Waterworks Trust—**  
 Embracing area of 5,120 acres. Population supplied,  
   900.  
 Supply from Erskine River, Rubble Dam  $3\frac{1}{2}$  miles  
   above Lorne at an elevation of 650 feet.  
 Supplementary scheme, concrete weir at Phantom  
   Falls on the George River.
- Coleraine and Casterton Waterworks Trust—**  
 Comprising portions of Shire of Glenelg and Shire  
   of Wannon.  
 Embracing an area of 1,800 acres. Population supplied,  
   3,000.  
**Works.**—Storage reservoir of 420,000,000 gallons  
   capacity.  
 Supplies Casterton and Coleraine townships.
- Apollo Bay Waterworks Trust—**  
 Comprising portion of Otway Shire.  
 Embracing an area of 360 acres. Population supplied,  
   350.  
**Works.**—Masonry Weir on Anderson's Creek.

## Lismore Waterworks Trust—

Population supplied, 400.

Supplies Township of Lismore in Hampden Shire.

## Mortlake Waterworks Trust—

Embracing an area of 1,069 acres. Population supplied, 1,000.

Source of Supply.—Water pumped by electric power from a spring in the Township of Mortlake.

Works.—Pitcher lined storage reservoir, springs, pumping plant, rising main, water tower, and pipe mains.

## Mount Rouse (Shire of) Waterworks Trust—

No details available.

## OFFENSIVE TRADES.

*All Under Municipal Control.*

Night soil depots—26. Refuse depots—34.

## Other Offensive Trades Municipal and Private.

Municipality.	Samples Taken.	Found Adulterated.	Action Taken.	Fines and Costs.
Geelong City ..	55	3	Prosecutions	£20 8s.
Geelong West City ..	48	1	Prosecutions	£9 0s. 6d.
Newtown and Chilwell ..	33	5		Warnings given
Hamilton City ..	19	1	Prosecution	£8 5s. 6d.
Warrnambool City ..	33			
Ararat Town ..	6			
Colac Town ..	20	2	Prosecution	£24 5s.
Portland Town ..	9			
Koroit Borough ..	8			
Port Fairy Borough ..	6			
Queenscliff Borough ..	9			
Ararat Shire ..	8			
Bannockburn Shire ..	6			
Barrabool Shire ..	6			
Belfast Shire ..	No return			
Bellarine Shire ..	9			
Colac Shire ..	15			
Corio Shire ..	15	1	Prosecution	No return
Dundas ..	12			
Glenelg ..	18			
Hampden ..	33	2	Prosecution	£11 11s.
Heytesbury ..	11	4	No record	
Leigh ..	4			
Minhamite ..	6	2	No record	
Mortlake ..	10			
Mount Rouse ..	9			
Otway ..	9			
Portland ..	18			
South Barwon ..	17			
Wannon ..	12			
Warrnambool ..	24	1		
Werribee ..	No return			
Winchelsea ..	12			
Kowree ..	9			
	409	22		
				£73 10s.

## DANGEROUS TRADES.

*None Listed.*

E. FORBES MACKENZIE,

District Health Officer.

## REPORT OF THE POLIOMYELITIS MEDICAL OFFICER FOR THE YEAR ENDING 30th JUNE, 1950.

This Report is to be read in conjunction with the Annual Report of 1949, as that report was prepared in the early phases of the epidemic and much of the matter therein is still relevant.

### STATISTICS.

As can be seen from the Tables, the epidemic reached its peak in September of 1949, but since then, in contrast to past experience in Victoria, but in common with recent experience overseas, the epidemic has not rapidly subsided, and cases are still being reported at many times the normal rate between epidemics the rate being of the order of 40 cases per year. It is suggested by some authorities that there is a rising endemic level of poliomyelitis throughout the world, but this remains conjectural.

The total of some 945 cases over the past eighteen months represents Victoria's second largest epidemic, only exceeded by that of 1937, when some 2,000 cases were reported and the after-care facilities of this State were in fact greatly exceeded.

The after-care problem is greatest after the subsidence of an epidemic when institutions which have provided beds and facilities during the peak of an epidemic, withdraw such assistance. Many of the remaining severely paralysed cases are sent to institutions without adequate facilities, or to their homes without provision for after-care. Every effort should be made to avoid this occurring in 1950-51.

This epidemic has produced some 50 cases per 100,000 of population—three times that of the 1947 epidemic in Great Britain and comparable with the incidence of the disease during severe epidemics in the United States of America.

### AGE DISTRIBUTION OF CASES.

The proportion of cases occurring in the older age groups should be noted, compared with that of 1937-38.

It is apparent that a higher proportion of cases is occurring in the older age groups, in which the disease is no less severe than in children. If we consider only adult cases, then assuming some 40 per cent. of the over fifteen cases have residual paralysis requiring supervision and that 25 per cent. of those cases now in the ten to fourteen age group require prolonged supervision, there will be approximately 170 cases potentially under the care of this Department during the next five years. It should be noted that it is this type of long-term case which the Department is required to look after, because few can afford private supervision for such a long period. The responsibility of this Department does not, therefore, cease with the epidemic, and would appear, if the present trend continues, to be likely to increase in future epidemics. (A similar assessed estimate for 1937-38 would also have been about 170 cases, even though that epidemic was twice the size.)

### PUBLIC HEALTH MEASURES.

The policy followed as indicated by last year's report was maintained until the end of the first quarter of this year, when there was gradual relaxation of restrictions except in areas where cases were still occurring. The only notable addition to measures listed last year, was a general warning on the risks of prophylactic inoculations against whooping cough and diphtheria. Both were deferred on the recommendation of the Consultative Council on Poliomyelitis, but diphtheria immunization was resumed because it was considered that the risks of this disease outweighed those of paralytic poliomyelitis following inoculation. Whooping cough immunization is only now being resumed and then, only in areas which appear to

be free from poliomyelitis. Publicity was not solicited in the Press because of the danger this represented to immunization campaigns in the future, but the practising profession was kept informed of the advice of the Consultative Council on Poliomyelitis.

Subsequently, Press publicity was released by the Ministry of Health of England and Wales.

The use of combined pertussis and diphtheria vaccine has been suspended by most doctors, as it appeared to be the major agent under suspicion. Recent overseas experiences would appear to suggest that the separate agents are also implicated. All future immunization campaigns should be conducted with this risk in view if poliomyelitis cases are occurring in the district concerned. When such a position arises, the relative risks of paralytic poliomyelitis following inoculation, and of the disease in question, should be carefully assessed.

### AFTER-CARE.

#### 1. CHILDREN.

(i) *City.*—There is a well established organization in the city centred on the Children's Hospital for cases under the age of fourteen years, and facilities are available for their In-patient treatment where required.

These cases may well be disregarded in any assessment of the facilities required of this Department at the present time.

(ii) *Country.*—Some of these are treated through the Children's Hospital when they are brought to the city for periodic review, receiving physiotherapy from parents trained on such visits to the particular requirements of the child.

The remainder of the under fourteen age group are seen at one or other of the following centres at Clinics arranged by this Department:—

Bairnsdale, Ballarat, Dandenong, Hamilton, Horsham, Mooroopna, Sale, Stawell, Wangaratta, Warragul, and Warrnambool.

#### 2. ADULTS.

Adults in the metropolitan area are either Out-patients of Public Hospitals, or where they so elect, directly under the supervision of the Departmental Medical Officers. Country adults are catered for as for country children not under the care of the Children's Hospital.

No account is here taken of cases attending doctors privately—in such cases this Department has provided free physiotherapy if requested by the doctor concerned.

### PHYSIOTHERAPY.

Departmental physiotherapists are at present covering Warragul and district, Wangaratta district, and some of the cases in the metropolitan area. The cover of the metropolitan area is far from adequate. As a temporary measure the Department has contracted with physiotherapists to do metropolitan cases on a case basis. This is not wholly satisfactory because it is an expensive method of providing physiotherapy, and continuity of treatment and standardization of technique are difficult to obtain.

The remainder of the country area is dependent on hospital physiotherapists or physiotherapists in private practice, who are prepared to treat some cases living in their area, their fees being paid by this Department. The deficiency in the country cannot at present be overcome.

On the whole it is at best a patchy cover which in many cases necessitates much inconvenience to families already considerably burdened, and results in the disappearance

of many cases for long periods without supervision, with the resultant development of avoidable deformity and crippling.

This system was, however, necessary to cope with this epidemic.

With the appointment of a senior physiotherapist, it is hoped that the remaining vacancies on the Department staff will be more readily filled, and it will be possible to offer to the people of this State a free physiotherapy service which is independent of the area in which they live.

As a result of the alteration of the provisions of the Masseurs Registration Act of Victoria, five additional physiotherapists have to date registered with the Masseurs Registration Board.

This has not directly eased the position of physiotherapists in this Department, but has increased the pool available for appointments to metropolitan and country institutions.

During inter-epidemic periods, this staff should be adequate to cope with the proposed extension of the functions of the Consultative Council on Poliomyelitis, and therefore of this division of the Department, to include Spastics and Disseminated Sclerosis cases.

#### SPLINTS AND APPLIANCES.

When newspaper publicity was given to the epidemic, many offers to help in making splints, &c., were received, and several firms were selected to make lock joints for calipers, abduction splints, and ring-topped calipers.

However, most of the splints other than those manufactured at the Children's Hospital for its own Out-patients, were supplied through the Splint Shop at the Royal Melbourne Hospital, although the pressure of work there was relieved by ordering some appliances from the Children's Hospital.

The Department made an arrangement with the Royal Melbourne Hospital under which splint work to the value of £1,500 was guaranteed in each financial year, but splint work carried out in the financial year 1949-50 alone totalled £2,800.

During the peak of the epidemic, splints were supplied on the order of any consultant, or of a physiotherapist working in close conjunction with a consultant, and it was not until early in 1950 that payment for these appliances was settled by the Hospitals or the patients concerned. For this purpose, a small almoner service was set up, and those patients who in the opinion of the Consultative Council on Poliomyelitis, could not meet the relatively high cost of splints, were granted assistance by the Council. In most cases, the full cost was paid, but in some cases, the patient was asked to make a contributory payment.

A contract was let to Disher and McBrien for the manufacture of 200 long prams, and these were available for any length of time on loan to any patient who would undertake to keep the pram in good condition, and notify the Department when it was no longer needed.

National Industries Pty. Ltd., made 100 adjustable frames from dural tubing to the design of Mr. Foster of the Commonwealth Scientific and Industrial Research Organization. These frames are still on trial, but it is hoped that with certain modifications, they will be capable of taking the place of the double Thomas splint in an epidemic and avoid the delay between order and delivery which develops on such occasions.

#### RESEARCH.

Field study of cases occurring during the last eighteen months has been as comprehensive as possible within the limits imposed by the after-care problem.

Most of the data so ascertained has not yet been analysed, but the work of Dr. B. P. McCloskey on The Relation of Prophylactic Inoculations to the Onset of

Poliomyelitis (published in the *Lancet* in April, 1950), has created world-wide interest, and fully justified the Government in sending him overseas to discuss this and other aspects of the disease with overseas authorities at the World Congress held in England and Switzerland.

The establishment of a virus research section at Fairfield Infectious Diseases Hospital, with particular attention to the neurotropic viruses, is a welcome advance.

#### FORM OF NOTIFICATION OF POLIOMYELITIS.

Present regulations provide for notification of this disease under the headings of Poliomyelitis and Polioencephalitis, the former to include all diagnosed cases of poliomyelitis with the exception of the encephalitic form of the disease.

Experience both in Australia and overseas has shown that standards of notification of non-paralytic poliomyelitis vary considerably from one doctor to another, and from time to time. Therefore, figures which include this highly variable factor, will remain unreliable until a simple and satisfactory means of accurate diagnosis is established.

Paralytic Poliomyelitis is a much more definite clinical entity, and more accurately reflects the general trend of the disease and the after-care problem. Polioencephalitis in the absence of paralysis is a rarity, and is subject to the same difficulties of diagnosis as the non-paralytic form of the disease.

It is therefore highly desirable that we should follow the trend of many other countries in this matter, and change the form of notification to *Paralytic Poliomyelitis* and *Non-Paralytic Poliomyelitis*.

#### RECOMMENDATIONS.

- That the establishment of a permanent institution for the after-care of both city and country adults and some country children be expedited, such a hostel to be run on similar lines to Welfare House, which it would supplement.

It must be able to take adult males, and be within reasonable distance of the Children's and Melbourne Hospitals.

Cases referred to this establishment should remain under the care of the consultant referring the case.

- That Poliomyelitis notifications be altered from Polioencephalitis and Poliomyelitis to *Paralytic Poliomyelitis* and *Non-Paralytic Poliomyelitis*.

PETER L. COLVILLE,  
Poliomyelitis Medical Officer.

#### POLIOMYELITIS IN VICTORIA.

TABLE 1.—MONTHLY INCIDENCE.

January, 1949, to June, 1950.

1949.

	Month.				Number of Cases.
January	..	..	..	..	5
February	..	..	..	..	13
March	..	..	..	..	33
April ..	..	..	..	..	68
May ..	..	..	..	..	55
June ..	..	..	..	..	65
July ..	..	..	..	..	81
August	..	..	..	..	122
September	..	..	..	..	190
October	..	..	..	..	62
November	..	..	..	..	48
December	..	..	..	..	50
Total	..	..	..	..	792

1950.

	Month.	Number of Cases.
January ..	..	46
February ..	..	24
March ..	..	28
April ..	..	25
May ..	..	16
June ..	..	14
Total ..	..	153

TABLE 2.—WEEKLY INCIDENCE.  
From 9th July, 1949, to June, 1950.

1949	Number of Cases.	1950	Number of Cases.
<b>Week ending—</b>			
9.7.49 ..	24	7.1.50 ..	24
16.7.49 ..	25	14.1.50 ..	12
23.7.49 ..	18	21.1.50 ..	6
30.7.49 ..	14	28.1.50 ..	4
6.8.49 ..	28	4.2.50 ..	5
13.8.49 ..	22	11.2.50 ..	8
20.8.49 ..	34	18.2.50 ..	8
27.8.49 ..	29	25.2.50 ..	3
3.9.49 ..	53	4.3.50 ..	5
10.9.49 ..	45	11.3.50 ..	8
17.9.49 ..	45	18.3.50 ..	4
24.9.49 ..	30	25.3.50 ..	5
1.10.49 ..	26	1.4.50 ..	6
8.10.49 ..	25	8.4.50 ..	7
15.10.49 ..	19	15.4.50 ..	8
22.10.49 ..	9	22.4.50 ..	7
29.10.49 ..	9	29.4.50 ..	3
5.11.49 ..	10	6.5.50 ..	6
12.11.49 ..	11	13.5.50 ..	3
19.11.49 ..	17	20.5.50 ..	3
26.11.49 ..	7	27.5.50 ..	4
3.12.49 ..	13	3.6.50 ..	5
10.12.49 ..	17	10.6.50 ..	5
17.12.49 ..	11	17.6.50 ..	3
24.12.49 ..	8	24.6.50 ..	1
31.12.49 ..	4	1.7.50 ..	..
Total ..	553	Total ..	153

TABLE 3.—QUARTERLY INCIDENCE.  
1949–50.

	Year.	Number of Cases.
<b>1949—</b>		
1st quarter ..	..	51
2nd quarter ..	..	188
3rd quarter ..	..	393
4th quarter ..	..	160
<b>1950—</b>		
1st quarter ..	..	98
2nd quarter ..	..	55

TABLE 4.—COMPARATIVE AGE DISTRIBUTION,  
1937–38 TO 1949–50

	Age Groups.	1937–38.	1949–50.
0 to 4 years ..	..	596	253
5 to 9 years ..	..	953	233
10 to 14 years ..	..	326	114
15 and over ..	..	221	345
Total ..	..	2,096	945

TABLE 5.—SEX INCIDENCE.  
Calendar Year, 1949 Only.

Age Groups.	Male.	Female.
0 to 4 years ..	134	92
5 to 9 years ..	127	69
10 to 14 years ..	66	29
15 to 19 years ..	50	39
20 to 24 years ..	36	40
25 to 29 years ..	26	26
30 to 34 years ..	14	19
35 years and over ..	12	13
Total ..	465	327

This Table is included to show the higher incidence of the disease in males than females in the under twenty age groups. There were some 60 deaths in the eighteen months period considered in this Report—44 males and 16 females. The relatively greater severity in males becomes apparent, for the severity of the disease in surviving males is in general, similarly greater.

TABLE 6.—ESTIMATE OF END RESULTS ON DISCHARGE  
OF 400 CASES TREATED AT FAIRFIELD INFECTIOUS  
DISEASES HOSPITAL, DURING THE 1949–50 EPIDEMIC.

Assessment.	Number of Cases.	Percentage of Cases.
Non-paralytic ..	71	18
Paralytic with complete recovery ..	146	36
Slight to moderate permanent paralysis ..	83	21
Severe permanent paralysis ..	73	18
Deaths ..	27	7

The above Table takes no account of the variation of severity with age. Only those with severe paralysis have been followed up in this series, and mild cases have been assumed to maintain the recovery anticipated; it thus probably tends to under-estimate the severity of the remaining cases.

## STAFF OF POLIOMYELITIS SECTION.

## MEDICAL OFFICERS.

Dr. B. P. McCloskey, M.B., B.S.  
Dr. P. L. Colville, M.B., B.S.

## PHYSIOTHERAPISTS.

Miss H. Kay.  
Miss M. Paton.  
Miss E. Ross.

## VISITING NURSE.

Sister S. Williams.

## APPENDIX A.

PRIVATE HOSPITALS YEARLY REPORT.  
31ST JULY, 1950.

30th June, 1949.  
 Total hospitals numbered 266.  
 Total beds available, 4,499.  
 Metropolitan.—152 hospitals with 3,219 beds.  
 Country.—114 hospitals with 1,280 beds.

30th June, 1950.  
 Total hospitals numbered 254.  
 Total beds available 4,312.  
 Metropolitan.—144 hospitals with 3,078 beds.  
 Country.—110 hospitals with 1,234 beds.

1st July, 1949, to 30th June, 1950.

*Hospitals—*

Five beds and over ..	233
Under five beds ..	21
<i>Total cases admitted for year—</i>	
Metropolitan ..	52,672
Country ..	26,875
	79,547

*Closures—*

		<i>Hospitals.</i>	<i>Beds.</i>
Metropolitan ..	..	12	with 124
Country ..	..	5	„ 41
Transferred to Hospital and Charities Commission—			
Metropolitan ..	..	2	„ 91
Country ..	..	6	„ 83
Total loss to Register		25	„ 339
<i>New Registrations—</i>			
Metropolitan ..	..	6	with 72
Country ..	..	7	„ 62
Total gain to Register		13	„ 134

*Transfers—*

Metropolitan ..	..	..	28	<i>Hospitals.</i>
Country ..	..	..	8	„
Total ..	..	..	36	„

*Reclassifications—*

Metropolitan ..	..	..	5	<i>Hospitals.</i>
Country ..	..	..	2	„
Total ..	..	..	7	„

*Application for altered bed capacity—*

Metropolitan ..	..	..	29	<i>Hospitals</i>
Country ..	..	..	13	„
Total ..	..	..	42	„

*Inspections—*

Private Hospital Inspections ..	..	..	152
Private Hospital Investigations ..	..	..	3
Private Hospitals Unregistered ..	..	..	9
General Inspection ..	..	..	1
Hospital Benefits Inspections ..	..	..	39
Survey of hospitals ..	..	..	130
(re permanently closed beds)			334

*Prosecution.—(1) Conviction on one charge under Health Act, Section 362—Fined £10; Costs £2 2s.*

A. DUDLEY.

## PRIVATE HOSPITALS CLASSIFICATION.

	<i>Hospitals.</i>	<i>Beds.</i>
<i>Medical, Surgical and Maternity—</i>		
Metropolitan ..	..	34 .. 1,116
Country ..	..	76 .. 826
<i>Medical and Maternity—</i>		
Metropolitan ..	..	7 .. 100
Country ..	..	6 .. 47
<i>Medical—</i>		
Metropolitan ..	..	5 .. 76
Country ..	..	3 .. 38
<i>Surgical—</i>		
Metropolitan ..	..	3 .. 29
<i>Medical and Surgical—</i>		
Metropolitan ..	..	13 .. 368
Country ..	..	4 .. 111
<i>Maternity—</i>		
Metropolitan ..	..	6 .. 79
Country ..	..	5 .. 40
<i>Medical, Maternity, Minor Surgery—</i>		
Metropolitan ..	..	5 .. 65
Country ..	..	2 .. 19
<i>Maternity and Surgical—</i>		
Metropolitan ..	..	1 .. 12
<i>Chronic—</i>		
Metropolitan ..	..	44 .. 817
Country ..	..	8 .. 106
<i>Chronic (ambulant)—</i>		
Metropolitan ..	..	17 .. 170
Country ..	..	6 .. 47
<i>Psychiatric—</i>		
Metropolitan ..	..	5 .. 156
<i>T.B. Sanatorium—</i>		
Metropolitan ..	..	1 .. 23
<i>Children—</i>		
Metropolitan ..	..	3 .. 67
Total ..	..	254 .. 4,312

## APPENDIX B.

## POPULATION AT 31ST DECEMBER, 1949

Victoria	..	..	2,164,331
Metropolitan Area	..	..	1,288,000

## SUMMARY OF VITAL STATISTICS, VICTORIA, 1949.

Division.	Number of—				Rate per 1,000 of mean Population.*			Infantile Mortality.	
	Marriages.	Births.	Deaths.	Deaths under One Year.	Marriages.	Births.	Deaths.		
Greater Melbourne	..	..	25,599	13,371	519	..	20·10	10·50	20·27
Remainder of the State	..	..	21,274	8,620	507	..	24·58	9·96	23·83
Victoria	..	..	20,066	46,873	21,991	1,026	9·38	21·92	21·89

\* Subject to revision.

## BIRTHS.

The following table shows the birth rates from 1855 to 1949:—

Period.	Average Annual Births.	Rate per 1,000 of Population.	Period.	Average Annual Births.	Rate per 1,000 of Population.
1855-59	17,154	38·49	1936	28,883	15·63
1860-64	24,060	43·29	1937	29,731	16·02
1865-69	25,963	39·77	1938	30,344	16·25
1870-79	26,971	34·60	1939	30,493	16·20
1880-89	30,113	31·45	1940	31,962	16·86
1890-99	34,310	29·37	1941	34,406	17·76
1900-09	30,655	24·92	1942	35,927	18·27
1910-19	33,800	24·27	1943	39,117	19·74
1920-29	35,457	21·77	1944	39,358	19·70
1930	33,127	18·55	1945	41,200	20·46
1931	30,332	16·86	1946	46,693	22·99
1932	27,464	15·18	1947	47,366	23·06
1933	28,392	15·59	1948	46,099	22·06
1934	27,828	15·20	1949	46,873	21·92
1935	27,884	15·16			

## MARRIAGES.

Marriages in Victoria in 1949 numbered 20,066.

Period.	Marriage Rate per 1,000 of Population.	Period.	Marriage Rate per 1,000 of Population.
1931	5·66	1941	10·79
1932	6·49	1942	12·02
1933	6·96	1943	9·26
1934	7·57	1944	8·94
1935	8·38	1945	8·20
1936	8·61	1946	10·54
1937	8·74	1947	9·95
1938	9·16	1948	9·59
1939	9·23	1949	9·38
1940	11·76		

The 1931 figure is the lowest recorded in the history of the State.

The marriage rate of 12·02 per 1,000 of population in 1942 was the highest on record.

## MATERNAL DEATHS.

Period.	Average Annual Number of Deaths from—						Rate per 10,000 Live Births from—					
	Puerperal Infection.			Total.			Puerperal Infection.			Total.		
	Infection during Childbirth and the Puerperium. (Detailed List No. 147.)	Spontaneous, Therapeutic, or Unspecified.	Criminal Abortion.	Other Diseases of Pregnancy, Childbirth, and the Puerperium. (Detailed List No. 141-146, 148-150.)	Including Criminal Abortion.	Excluding Criminal Abortion.	Infection during Childbirth and the Puerperium. (Detailed List No. 147.)	Spontaneous, Therapeutic, or Unspecified.	Criminal Abortion.	Other Diseases of Pregnancy, Childbirth, and the Puerperium. (Detailed List No. 147.)	Including Criminal Abortion.	Excluding Criminal Abortion.
1926-29	44	12	21	121	198	177	12·78	3·46	5·92	34·66	57·02	51·10
1930-34	33	9	27	91	160	133	11·08	3·13	9·17	30·99	54·37	45·20
1935-39	18	6	41	74	139	98	5·97	1·90	14·05	25·25	37·17	33·12
1940	19	1	50	58	128	72	5·95	0·31	15·64	18·15	40·05	22·53
1941	23	1	44	57	125	79	6·68	0·29	12·79	16·57	36·33	22·96
1942	20	1	29	59	109	77	5·57	0·28	8·07	16·42	30·34	21·43
1943	23	5	39	69	136	93	5·88	1·28	9·97	17·64	34·77	23·77
1944	11	4	17	69	101	81	2·79	1·02	4·32	17·53	25·66	20·58
1945	14	2	12	50	78	63	3·40	0·48	2·91	12·14	18·93	15·29
1946	18	4	9	41	72	59	3·85	0·86	1·93	8·78	15·42	12·64
1947	14	3	18	56	91	71	2·96	0·63	3·80	11·82	19·21	14·99
1948	9	1	6	47	63	53	1·95	0·22	1·30	10·20	13·67	11·50
1949	6	1	5	29	41	36	1·28	0·21	1·07	6·19	8·75	7·68

NOTE.—Owing to changes in classification the maternal death rates given for years prior to 1940 are not strictly comparable with those for subsequent years.

## INFANT MORTALITY.

(Deaths under One Year.)

Period.	Mortality Rate per 1,000 Births.			Period.	Mortality Rate per 1,000 Births.		
	Metropolitan Area.	Rest of State.	Victoria.		Metropolitan Area.	Rest of State.	Victoria.
1880-84	170·1	92·3	120·0	1935	43·0	39·5	41·2
1885-89	178·5	97·9	133·3	1936	44·1	40·7	42·3
1890-94	140·4	94·9	114·7	1937	37·1	36·3	36·7
1895-99	131·5	100·0	112·5	1938	34·1	34·3	34·2
1900-04	116·5	86·2	98·2	1939	32·3	38·9	35·6
1905-09	96·5	71·5	81·2	1940	39·7	39·2	39·5
1910-14	84·2	64·9	73·8	1941	34·6	38·1	36·2
1915-19	76·2	55·4	66·1	1942	43·8	38·9	41·6*
1920-24	71·6	58·6	65·3	1943	34·1	38·2	35·8
1925-29	58·3	50·2	54·3	1944	31·0	33·3	32·0
1930	50·7	42·3	46·5	1945	26·9	29·6	28·0
1931	48·0	41·1	44·7	1946	27·0	27·3	27·2
1932	47·7	38·9	43·0	1947	26·8	25·6	26·3
1933	40·9	40·0	40·4	1948	23·8	24·1	23·9
1934	48·2	41·4	44·6	1949	20·3	23·8	21·9

\* The high infant mortality rate for 1942 can be ascribed to whooping cough.  
Details will be found in the report of the Maternal and Child Hygiene Branch.

## DEATHS.

The number of deaths in 1949 was 21,991 and the death rate per 1,000 of population in 1949 was 10·28.

Period.	Average Annual Number of Deaths.	Rate per 1,000 of Mean Population.	Period.	Average Annual Number of Deaths.	Rate per 1,000 of Mean Population.
1870-79	12,133	15·50	1937	18,613	10·03
1880-89	14,510	15·13	1938	18,955	10·15
1890-99	16,618	14·21	1939	20,169	10·72
1900-09	15,194	12·38	1940	20,293	10·70
1910-19	15,994	11·47	1941	20,416*	10·54
1920-29	16,524	10·03	1942	21,973*	11·18
1930	15,959	8·93	1943	21,327*	10·76
1931	17,033	9·47	1944	20,502*	10·26
1932	16,805	9·29	1945	20,496*	10·18
1933	17,456	9·59	1946	21,534*	10·60
1934	18,648	10·18	1947	21,442*	10·44
1935	18,456	10·03	1948	21,825	10·44
1936	18,778	10·16	1949	21,991	10·28

\* Excludes deaths of Defence personnel and of Internees and Prisoners of War from overseas.

## DEATH RATES FROM CERTAIN CAUSES.

Cause of Death.	Deaths per Million of Population.*										
	1908-12.	1940.	1941.	1942.	1943.	1944.	1945.	1946.	1947.	1948.	1949.
Heart diseases (including the conditions producing diseases of the heart)† .. ..	1,141	2,720	2,766	2,107	3,069	3,020	3,151	3,293	3,275	3,394	3,348
Cancer .. ..	838	1,332	1,379	1,355	1,378	1,331	1,366	1,396	1,416	1,385	1,455
Nephritis, acute and chronic ..	576	703	680	687	676	639	646	640	573	547	497
Pneumonia and bronchopneumonia .. ..	834	726	678	730	697	576	558	613	555	594	549
Accidental violence .. ..	531	529	497	467	379	390	333	420	478	460	476
Tuberculosis (all forms) .. ..	1,037	428	449	442	375	377	363	350	330	307	274
Diabetes .. ..	107	202	213	212	219	208	208	213	213	217	215
Enteritis and diarrhoeal diseases .. ..	833	73	58	84	85	66	53	58	42	53	36
Diphtheria .. ..	122	14	36	24	24	17	19	8	6	5	8

\* Subject to revision.

† Increase due to form of certification of death having been changed in recent years.

## INFECTIOUS DISEASES DECLARED NOTIFIABLE.

Anchylostomiasis (Hookworm), Anthrax, Bilharziasis, Cholera, Cerebro-Spinal Meningitis (Meningococcal), Diphtheria, Dysentery (bacillary), Dysentery (amboeic), Encephalitis (lethargic), Erythema Nodosum, Exudative Pleurisy, Helminthiasis, Hydatids, (Taenia solium and Taenia saginata) Leprosy, Malaria, Plague, Polioencephalitis, Poliomyelitis, Psittacosis, Puerperal Fever, Scarlet Fever, Smallpox, Tetanus, Trachoma, Tuberculosis, Typhoid Fever, Paratyphoid Fever, Typhus Fever, Undulant Fever, Yellow Fever.

## RETURNS FROM MUNICIPAL DISTRICTS FOR THE YEAR ENDING 31ST DECEMBER, 1949.

Municipal District.	Population.*	Diphtheria.	Scarlet Fever.	Typhoid.	Tuberculosis.	Cerebro-Spinal Meningitis.	Polio-myelitis	Anchylostomiasis.
<b>METROPOLITAN AREA.</b>								
Box Hill .. .. .. ..	27,200	1	25	..	3	1	9	2
Braybrook Shire .. .. .. ..	10,700	9	13	..	5	2	12	..
Brighton .. .. .. ..	34,350	4	27	..	18	2	19	3
Broadmeadows Shire .. .. .. ..	..	..	5	..	..	1	2	..
Brunswick .. .. .. ..	58,550	11	24	..	17	3	21	7
Camberwell .. .. .. ..	68,000	3	67	..	20	..	32	5
Caulfield .. .. .. ..	72,450	3	32	..	27	1	21	4
Chelsea .. .. .. ..	7,450	..	9	..	5	..	10	1
Coburg .. .. .. ..	41,900	5	28	..	20	..	17	4
Collingwood .. .. .. ..	30,050	12	11	..	6	..	5	1
Essendon .. .. .. ..	48,650	22	20	1	20	3	23	3
Fitzroy .. .. .. ..	30,800	17	10	..	17	1	9	2
Footscray .. .. .. ..	54,000	9	56	..	25	..	15	5
Hawthorn .. .. .. ..	36,550	1	17	..	13	..	12	4
Heidelberg .. .. .. ..	29,830	11	19	..	19	..	18	4
Keilor Shire .. .. .. ..	..	..	4	..	2	..	2	1
Kew .. .. .. ..	27,800	1	17	3	28	1	12	1
Malvern .. .. .. ..	46,350	4	28	..	15	..	20	..
Melbourne .. .. .. ..	93,650	52	33	..	38	11	38	6
Moorabbin .. .. .. ..	21,900	12	20	..	14	..	23	3
Mordialloc .. .. .. ..	10,650	..	4	..	4	..	3	2
Mulgrave Shire .. .. .. ..	..	..	5	1	1	..	..	2
Northcote .. .. .. ..	43,850	3	13	..	12	..	14	2
Nunawading .. .. .. ..	..	3	5	..	6	..	5	..
Oakleigh .. .. .. ..	13,100	..	4	..	3	..	15	1
Port Melbourne .. .. .. ..	13,600	36	8	..	12	3	10	1
Prahran .. .. .. ..	55,800	17	22	1	27	..	12	10
Preston .. .. .. ..	36,450	11	22	..	19	..	14	3
Richmond .. .. .. ..	40,000	13	15	..	16	3	20	5
Ringwood Borough .. .. .. ..	..	..	8	..	4	..	1	..
Sandringham .. .. .. ..	20,100	..	29	..	14	3	12	2
South Melbourne .. .. .. ..	43,700	7	13	..	17	3	9	6
St. Kilda .. .. .. ..	52,150	16	23	1	27	..	27	4
Williamstown .. .. .. ..	23,650	1	14	..	6	2	7	..
<b>REST OF STATE.</b>								
<i>Cities.</i>								
Ballarat .. .. .. ..	37,950	1	7	..	18	1	2	..
Bendigo .. .. .. ..	26,430	6	2	..	41	..	26	..
Geelong .. .. .. ..	17,480	..	2	..	13	2	3	1
Geelong West .. .. .. ..	14,400	1	..	..	4	..	1	..
Hamilton .. .. .. ..	6,050	..	2	..	3	..	10	..
Horsham .. .. .. ..	5,570	..	1	..	2	..	4	..
Mildura .. .. .. ..	6,900	15	6	..	9	..	1	..
Newtown and Chilwell .. .. .. ..	8,850	..	1	..	8	..	3	..
Shepparton .. .. .. ..	6,140	3	10	..	4	..	2	..
Warrnambool .. .. .. ..	9,300	..	..	..	8	..	1	..
<i>Towns.</i>								
Ararat .. .. .. ..	4,960	..	2	2	3	..	..	..
Castlemaine .. .. .. ..	5,350	..	..	..	3	..	1	..
Colac .. .. .. ..	8,200	..	5	..	1	..	2	..
Portland .. .. .. ..	2,600	..	..	..	2	..	1	..
Sale .. .. .. ..	4,280	..	7	..	..	..	1	..
<i>Boroughs.</i>								
Benalla .. .. .. ..	8,260	3	3	..	..	..	1	..
Clunes .. .. .. ..	1,170	..	..	..	..	..	..	..
Daylesford .. .. .. ..	2,660	..	1	..	4	..	5	..
Eaglehawk .. .. .. ..	3,870	3	1	..	6	..	5	..
Echuca .. .. .. ..	4,460	..	5	..	6	1	..	..
Inglewood .. .. .. ..	1,020	..	..	..	..	..	..	..
Koroit .. .. .. ..	1,680	..	1	..	1	..	..	..
Maryborough .. .. .. ..	5,810	..	..	..	3	..	9	..
Port Fairy .. .. .. ..	1,880	..	2	..	2	..	1	..
Queenscliffe .. .. .. ..	2,010	..	1	..	2	..	..	..
Sebastopol .. .. .. ..	1,790	1	..	..	..	..	..	..
Stawell .. .. .. ..	4,860	..	..	..	4	..	..	..
St. Arnaud .. .. .. ..	3,210	..	50	..	..	..	..	..
Swan Hill .. .. .. ..	4,900	1	2	..	2	..	2	..
Wangaratta .. .. .. ..	4,990	6	14	..	5	..	4	..
Wonthaggi .. .. .. ..	6,500	1	3	1	2	1	3	..
Yallourn .. .. .. ..	..	..	7	..	3	1	..	..

\* Population figures subject to revision.

## RETURNS FROM MUNICIPAL DISTRICTS FOR THE YEAR ENDING 31ST DECEMBER, 1949.

Municipal District.	Population.*	Diphtheria.	Scarlet Fever.	Typhoid.	Tuberculosis.	Cerebro-Spinal Meningitis.	Polio-myelitis.	Ankylos-tomiasis.
<b>REST OF STATE—continued.</b>								
<i>Shires.</i>								
Alberton	6,010	1	1	..	2	..	..	..
Alexandra	3,570	..	..	..	..	..	..	..
Arapiles	2,300	..	..	..	..	..	..	..
Ararat	5,620	..	2	..	2	..	2	..
Avoca	3,080	..	1	..	..	..	1	..
Avon	2,690	1	2	..	..	..	1	..
Bacchus Marsh	3,510	..	..	..	..	..	2	..
Bairnsdale	8,120	..	..	..	..	1	..	..
Ballan	2,880	..	..	..	1	..	1	..
Ballarat	4,260	..	..	..	1	..	..	..
Bannockburn	2,370	..	..	..	..	..	1	..
Barrabool	1,970	..	1	..	..	..	3	..
Bass	4,560	..	1	..	1	..	1	..
Beechworth	4,770	..	1	..	1	..	1	..
Belfast	2,190	..	..	..	..	..	1	..
Bellarine	3,900	..	..	..	2	..	..	1
Benalla	8,260	1	3	..	1	2	..	..
Berwick	10,200	..	9	..	4	2	4	..
Bet Bet	3,500	..	..	..	2	..	3	..
Birchip	2,200	..	2	..	..	..	..	..
Bright	4,860	..	..	..	2	..	3	..
Broadford	1,600	1	..	..	..	..	1	..
Bulla	2,890	..	..	..	..	..	..	..
Buln Buln	6,290	..	1	..	3	..	1	..
Bungaree	2,280	..	..	..	..	..	..	..
Buninyong	4,470	..	..	..	2	..	..	..
Charlton	2,880	..	..	..	..	..	..	..
Chiltern	1,950	1	3	1	..	..	1	..
Cohuna	3,530	..	..	..	..	..	1	..
Colac	8,200	1	..	..	2	..	2	..
Corio	4,230	2	..	..	2	..	..	..
Cranbourne	7,060	..	2	..	1	..	3	..
Creswick	4,470	..	1	1	3	..	..	..
Dandenong	11,500	1	7	1	4	1	4	..
Deakin	4,590	..	1	1	1	..	3	..
Dimboola	6,990	..	1	..	..	..	..	..
Donald	3,670	..	2	..	2	..	..	..
Doncaster and Templestowe	3,040	..	10	..	..	..	..	..
Dundas	3,560	..	..	..	2	..	1	..
Dunmunkle	5,060	..	1	..	..	..	..	..
East Loddon	2,000	..	..	..	..	..	..	..
Eltham	5,070	3	4	..	3	..	5	1
Euroa	3,910	..	3	..	2	..	..	..
Ferntree Gully	9,200	3	46	..	6	..	6	3
Flinders	5,880	..	15	..	..	..	3	1
Frankston and Hastings	7,040	2	3	..	3	..	5	1
Gisborne	2,040	..	1	..	1	..	..	..
Glenelg	5,710	..	..	..	..	..	4	..
Glenyon	2,750	..	1	..	..	..	..	..
Gordon	3,550	..	1	..	..	..	6	..
Goulburn	1,970	1	5	..	..	..	..	..
Grenville	2,650	..	1	..	..	..	..	..
Hampden	11,850	..	3	..	2	..	1	..
Healesville	2,700	..	1	..	..	..	3	..
Heytesbury	5,750	..	2	..	..	..	1	..
Huntly	2,980	..	..	..	1	..	2	..
Kaniva	2,550	..	..	..	2	..	..	..
Kara Kara	2,720	..	8	..	1	1	..	..
Karkarooc	6,750	..	1	..	..	1	5	..
Kerang	9,400	..	..	..	4	..	4	..
Kilmore	1,780	..	..	..	..	..	..	..
Korong	4,680	..	1	..	..	..	..	..
Korumburra	7,360	..	3	..	..	..	..	..
Kowree	3,670	..	1	..	..	..	..	..
Kyneton	6,720	1	..	..	4	..	..	..
Leigh	1,440	..	..	..	1	..	..	..
Lexton	1,610	..	2	..	..	..	..	..
Lillydale	9,940	..	11	..	4	2	4	..
Lowan	4,390	1	..	..	..	..	..	..
Maffra	6,240	3	1	..	1	..	..	..
Maldon	2,450	..	..	..	..	..	1	..
Mansfield	3,590	..	2	..	..	1	..	2
Marong	5,390	1	1	..	..	..	..	3
Melton	1,500	..	..	..	..	..	..	..
Metcalf	2,700	..	..	..	..	..	..	..
Mildura	17,960	5	7	..	..	12	1	1
Minhamite	2,110	..	..	..	..	..	..	..
Mirboo	1,610	..	2	..	..	..	..	..
Mornington	2,370	..	1	..	..	..	..	..
Mortlake	3,540	..	..	..	..	..	..	..
Morwell	8,040	1	2	..	..	..	2	..
Mount Rouse	2,690	..	..	..	..	..	1	..
McIvor	2,900	6	..	..	..	..	..	..

\* Population figures subject to revision.

## RETURNS FROM MUNICIPAL DISTRICTS FOR THE YEAR ENDING 31ST DECEMBER, 1949.

Municipal District.	Population.*	Diphtheria.	Scarlet Fever.	Typhoid.	Tuberculosis.	Cerebro-Spinal Meningitis.	Polio-myelitis.	Ankylosis-tomiasis.
<b>REST OF STATE—continued.</b>								
<i>Shires—continued.</i>								
Narracan .. .. .. ..	8,500	4	7	..	4	..	..	..
Newham and Woodend .. ..	2,100	..	..	..	1	..	..	..
Newstead .. .. ..	2,400	..	..	..	2	..	1	..
Numurkah .. .. ..	6,050	1	..	..	1	..	1	..
Omeo .. .. ..	2,320	..	..	..	..	..	..	..
Orbost .. .. ..	5,050	17	..	..	..	..	2	..
Otway .. .. ..	3,830	..	3	..	..	..	..	..
Oxley .. .. ..	4,480	2	6	..	..	..	1	..
Phillip Island .. ..	1,020	..	1	..	2	..	2	..
Portland .. .. ..	5,500	..	2	..	1	..	4	..
Pyalong .. .. ..	710	..	..	..	..	..	1	..
Ripon .. .. ..	3,560	..	11	..	..	..	..	..
Rochester .. .. ..	6,650	..	1	..	..	..	2	..
Rodney .. .. ..	9,080	5	12	..	4	..	15	..
Romsey .. .. ..	2,990	..	..	..	1	..	..	..
Rosedale .. .. ..	4,170	..	2	..	..	..	..	..
Rutherglen .. .. ..	3,580	..	..	..	..	..	..	..
Seymour .. .. ..	4,120	2	2	..	5	..	3	..
Shepparton .. .. ..	5,600	5	3	..	1	..	..	..
South Barwon .. .. ..	4,250	1	1	..	1	..	..	..
South Gippsland .. ..	4,500	..	1	..	2	..	..	..
Stawell .. .. ..	3,830	..	1	..	1	..	..	..
Strathfieldsaye .. ..	3,530	3	..	..	5	..	7	..
Swan Hill .. .. ..	11,700	3	5	..	3	..	1	..
Talbot .. .. ..	1,270	..	..	..	..	..	..	..
Tambo .. .. ..	4,300	2	2	..	4	..	1	..
Towong .. .. ..	4,750	1	1	..	1	..	..	..
Traralgon .. .. ..	3,760	..	2	1	1	..	2	..
Tullaroop .. .. ..	2,190	..	1	..	..	..	6	..
Tungamah .. .. ..	5,200	1	4	..	1	..	4	..
Upper Murray .. .. ..	2,390	..	..	..	1	..	..	..
Upper Yarra .. .. ..	4,690	..	..	..	1	..	2	..
Violet Town .. .. ..	1,690	..	2	..	..	..	1	..
Walpeup .. .. ..	6,840	1	7	..	..	..	..	..
Wangaratta .. .. ..	2,440	..	1	..	..	..	1	..
Wannon .. .. ..	3,840	..	1	..	..	..	1	..
Waranga .. .. ..	5,330	..	2	..	..	..	3	..
Warracknabeal .. ..	5,300	..	..	..	..	..	..	..
Warragul .. .. ..	5,940	..	6	..	5	..	9	..
Warrnambool .. ..	8,630	..	1	..	1	..	1	..
Werribee .. .. ..	8,050	..	4	..	1	..	7	..
Whittlesea .. .. ..	3,260	..	..	..	3	..	4	..
Wimmera .. .. ..	4,330	..	2	..	..	..	..	..
Winehelsea .. .. ..	3,630	1	1	..	2	..	..	..
Wodonga .. .. ..	3,350	..	134	..	7	..	2	..
Woorayl .. .. ..	5,970	..	13	..	2	..	2	..
Wyeheproof .. .. ..	6,030	..	2	..	..	..	..	..
Yackandandah .. ..	2,970	..	7	..	..	..	1	..
Yarrowonga .. .. ..	3,080	..	..	..	..	..	3	..
Yea .. .. ..	2,690	..	1	..	..	..	..	..

\* Population figures subject to revision.

*Dysentery (Amoebic)—*

Braybrook (1)  
Essendon (1)  
Malvern (2)  
Prahran (5)  
South Melbourne (1)  
Buln Buln (1)

Camberwell (6)  
Brunswick (1)  
Melbourne (2)  
Footscray (1)  
St. Kilda (1)  
Swan Hill Shire (1)

Caulfield (7)  
Hawthorn (1)  
Mordialloc (1)  
Richmond (3)  
Otway (1)

Coburg (2)  
Kew (1)  
Preston (3)  
Ringwood (1)  
Broadford (1)

*Dysentery (Bacillary)—*

Coburg (2)  
Tambo (1)

Oakleigh (1)  
Warragul (2)

Wodonga (4)  
Werribee (1)

Portland Borough (1)

*Encephalitis (Lethargic)—*

Brighton (1)

Coburg (2)

Stawell Shire (1)

*Hydatids—*

Ballarat (2)  
Creswick (1)  
Hamilton (1)  
Hampden (1)

Berwick (1)  
Tullaroop (1)  
Colac Town (1)

Geelong City (1)  
Buln Buln (1)  
Portland Shire (2)

Geelong West (1)  
Dundas (1)  
Glenelg (1)

*Malaria—*

Brunswick (1)

Coburg (1)

Hamilton (1)

Werribee (1)

*Polioencephalitis—*

Coburg (1)

Karkarooc (1)

Shepparton Shire (1)

*Puerperal Fever—*

Flinders (1)

Karkarooc (1)

Shepparton Shire (1)

*Tetanus—*

Collingwood (1)  
Hamilton (1)

Essendon (1)  
Warrnambool City (1)

Dimboola (1)

Lowan (1)

*Undulant Fever—*

Camberwell (1)  
Oakleigh (1)  
Bright (1)  
Portland Shire (1)

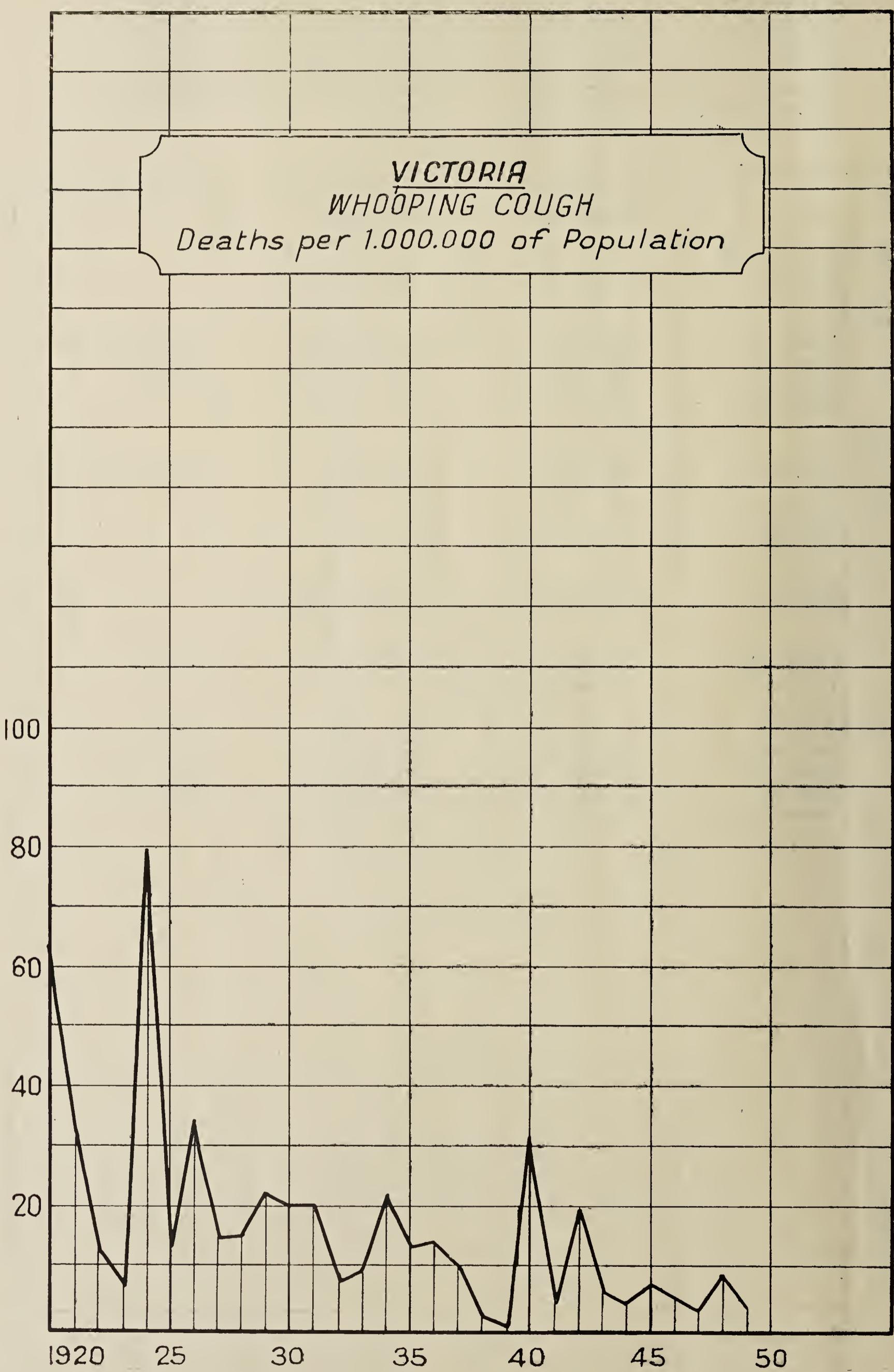
Coburg (1)  
Ringwood (1)  
Dundas (1)  
Prahran (1)

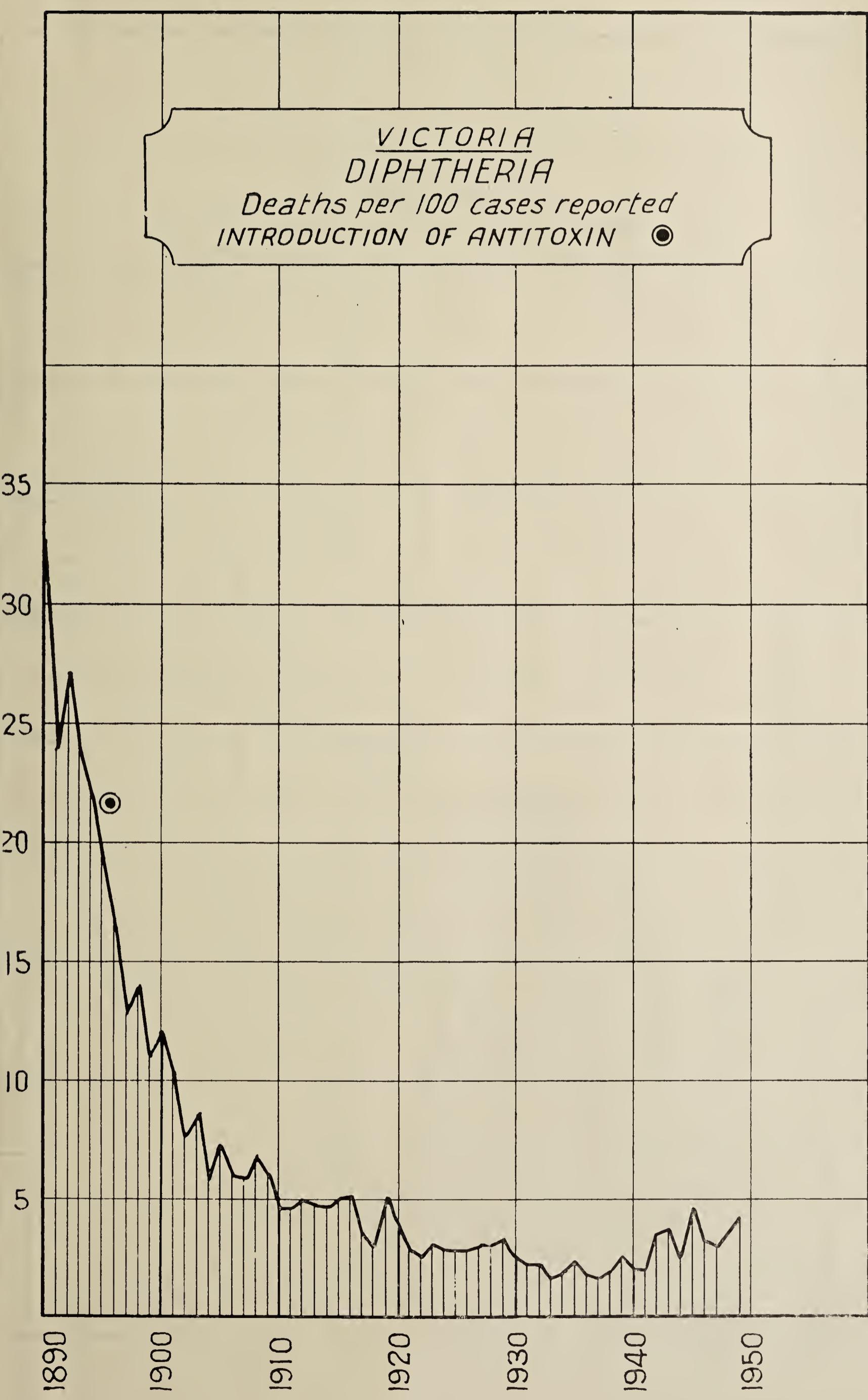
Essendon (1)  
Beechworth (1)  
Hampden (1)  
South Gippsland (1)

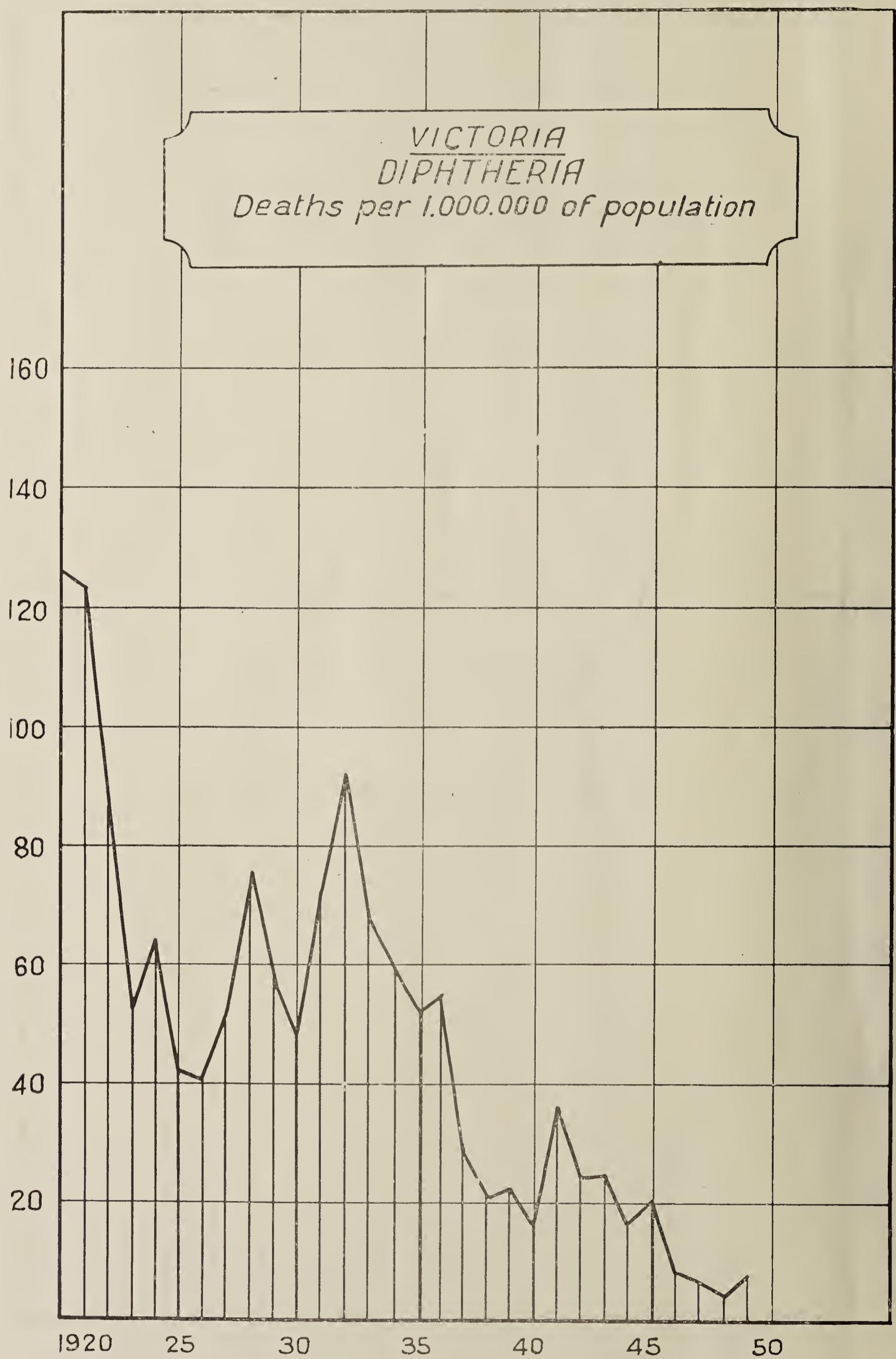
Kew (1)  
Nunawading (1)  
Melbourne (2)

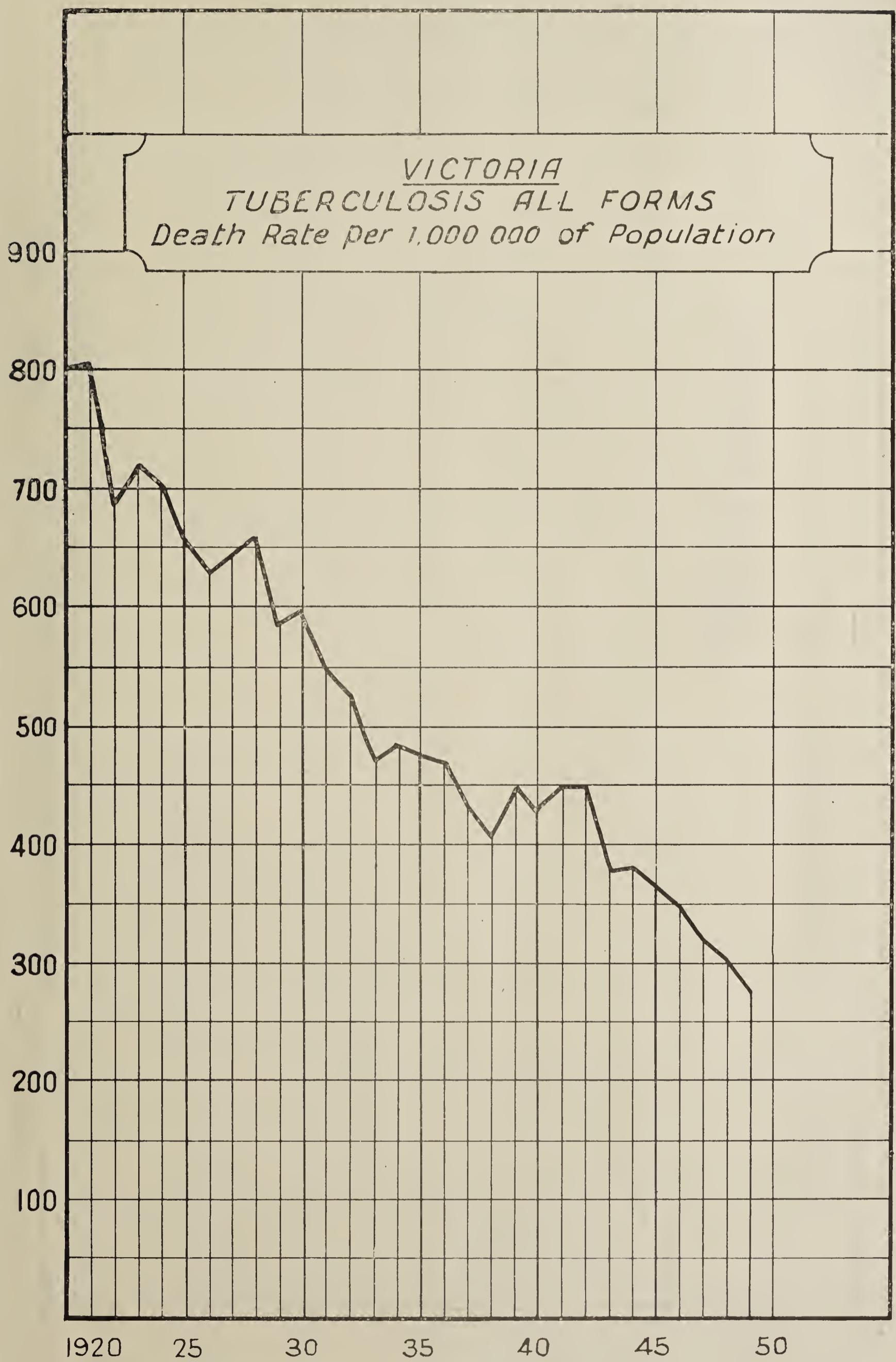
## SUMMARY.

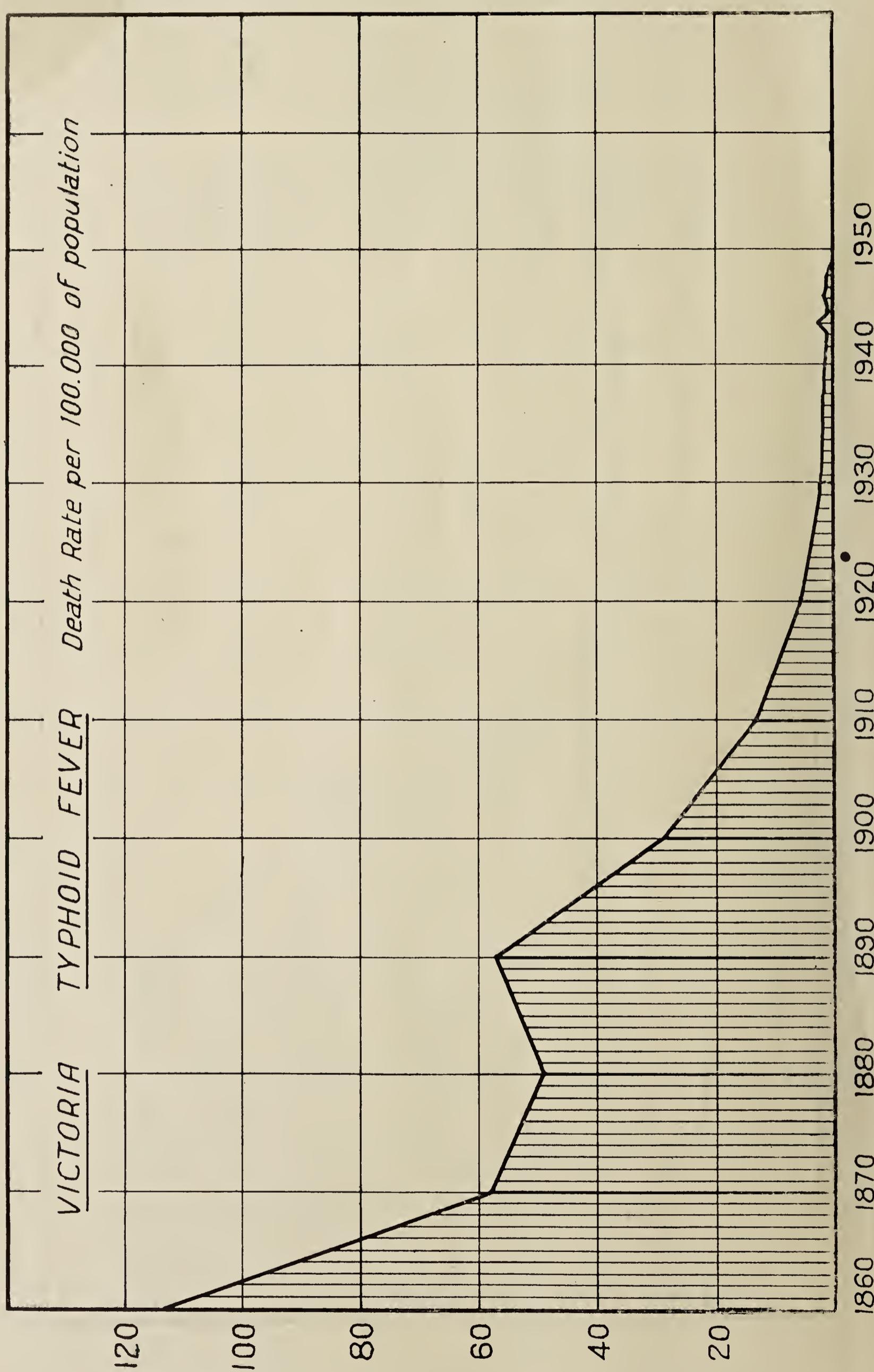
	Diphtheria.	Scarlet Fever.	Typhoid.	Tuberculosis.	Cerebro-Spinal Meningitis.	Poliomyelitis.	Polioencephalitis.	Dysentery (bacillary).	Encephalitis (lethargic).	Hydatids.	Malaria.	Puerperal Fever.	Tetanus.	Anchylostomiasis.	Dysentery (amoebic).	Undulant Fever.
Metropolitan Area ..	291	670	7	479	41	472	1	3	3	..	2	..	2	94	40	10
Rest of State ..	110	590	8	335	26	288	..	9	1	15	2	3	4	11	4	6
Grand Totals ..	401	1,260	15	814	67	760	1	12	4	15	4	3	6	105	44	16











VICTORIA  
TYPHOID FEVER  
*Death Rate per 100,000 of population      MELBOURNE*  
*Sewerage Introduced* 

